

# Woodworking CRAFTS

HAND, POWER & GREEN WOODWORKING • TURNING • RESTORATION • DIY

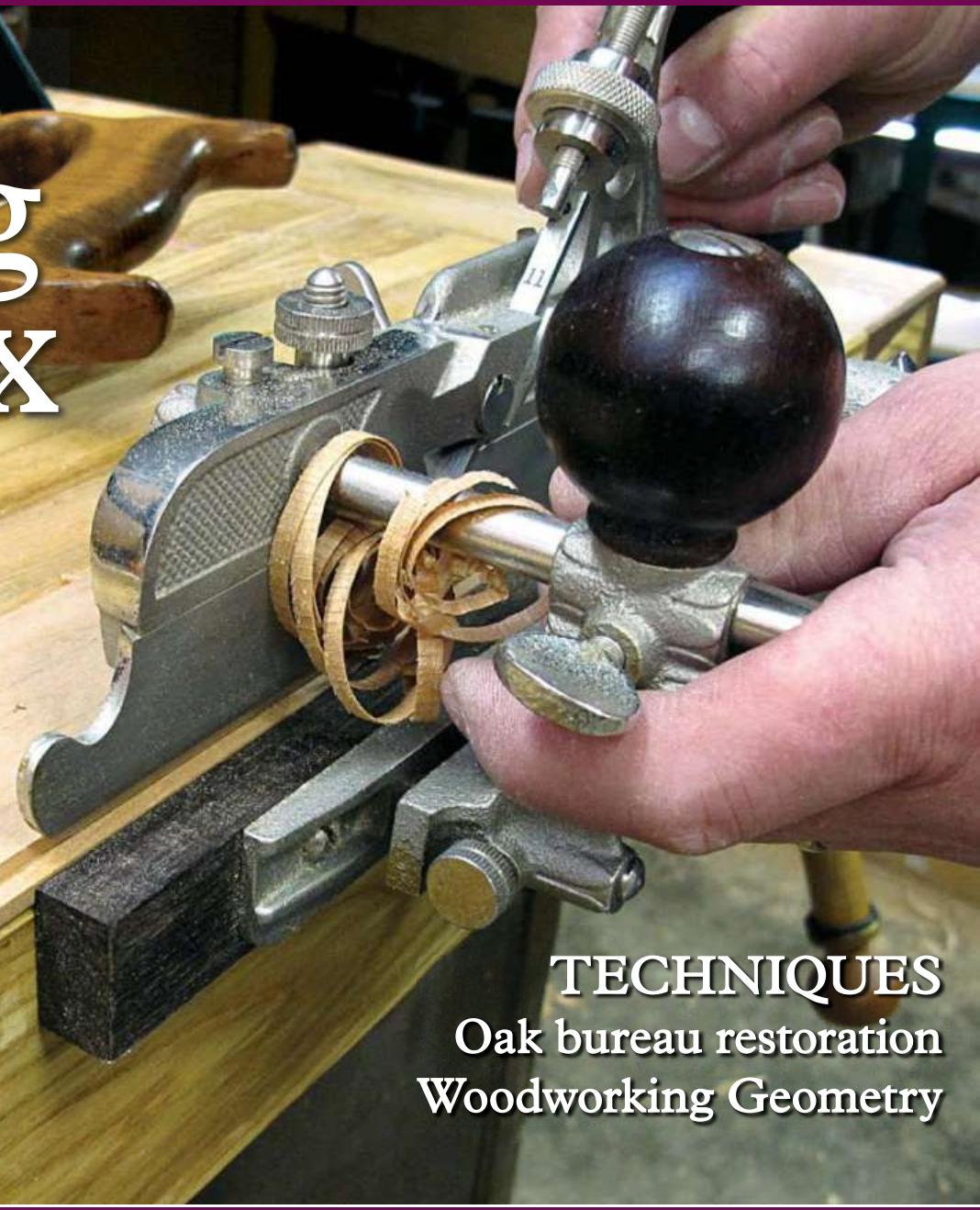
## Make a sliding lid box

### PROJECTS

Shaker blanket chest  
Christmas ornament  
Carve a shoehorn  
Fanlight surround

### Features

Woodland ways  
Dendrochronology



### TECHNIQUES

Oak bureau restoration  
Woodworking Geometry

#### WOOD STORAGE SHED



#### EASY PINE SPICE RACK



#### STEAM BENDING WOOD



# The Christmas Collection

## Multi-MAXX Multi-Function Tool - Includes 10 Accessories XMS15MTMAX

- Slim body for extra user control
- Supplied with 1 x plunge cut saw blade for wood and 1 x scraper
- Triangle sanding disc
- 6 x triangular sanding sheets
- 1 x metal saw blade
- 2 year guarantee

**£49.99**

RRP £89.99

AS SEEN  
ON TV

Save  
£40

**Einhell**  
BELL DORF

## 18v XR Li-ion Combi Drill XMS15COMBI

- Max torque 60Nm
- 14 stage torque settings
- 13mm keyless chuck with spindle lock
- Drilling capacity: wood 38mm, steel 13mm and masonry 13mm
- Supplied with 2 x 1.5Ah Li-ion batteries, charger and carry case
- 3 year warranty\*\*

**£149.99**

RRP £199.99

Save  
£50

**REAL  
DEALS  
FOR YOU**

AS SEEN  
ON TV

Save  
£40



## 3 Piece Carpenters Tool Set in Wooden Presentation Box XMS15WOODKIT

- No.4 smoothing plane
- 60 1/2 block plane
- 230mm (9") try square
- Supplied in a fine wooden presentation case
- 5 year guarantee

**£29.99**

RRP £69.99

ADD  
THIS

Save  
£20

## 7 Piece Multi-Function Tool Blade Set XMS15MFBLADE

- High-quality cutting blades
- Seven assorted blades for cutting wood, metal and ceramics
- Fits Bosch, DeWalt, Einhell, most Fein, Makita and many other multi-function power tools

**£14.99**

RRP £34.99

**YOUR CHANCE TO WIN  
one of six fantastic  
DeWalt six-packs**

Real Deals for You are giving away £10,000 worth of DeWalt tools



BUY  
THIS,  
ENTER  
THIS

How to enter

Simply submit your details online! To claim a prize winners must provide proof of purchase from Real Deals for You Approved Stockist from 20.09.15. For further details, and competition terms and conditions, please visit [www.realdealsforyou.com](http://www.realdealsforyou.com).



Visit: [www.realdealsforyou.com](http://www.realdealsforyou.com)  
Follow us on: [@Real\\_Deals4You](https://twitter.com/Real_Deals4You)

**IRWIN TOOLS**



**LESS THAN HALF PRICE**  
**WHY NOT BUY 2**

**Quick-Grip 30cm/12" XP One-Handed Clamp** XMS15XPGRIP

- Up to 250kg clamping pressure
- Non-marking pads
- Clamping capacity 300mm (12")
- Spreading capacity 570mm (22")
- Supplied with heavy-duty holster

**£14.99**  
RRP £30.99

**13 Piece 4X Flat Bit Set with Wall Hanger**

XMS15FLATBIT

- Sizes: 8,10,12,13,14,16,17,18, 20, 22, 25, 30 and 32mm
- Cut four times faster than standard Irwin flat bits
- Handy wall hanger

**£14.99**  
RRP £49.99

**Save £35**

**IRWIN TOOLS**



**Save £30**

**Double Sided Diamond Sharpening Stone with Docking Station** XMS15DIAMOND

- Grades 400G Medium and 1000G Fine
- 200mm x 70mm
- Use dry or with water
- Adjustable docking station
- Supplied with storage wallet

**£19.99**  
RRP £49.99

# The Christmas Collection

**Stealth Hammer with Free Bear Claw Bar**

XMS15HAMMER

- Oversized striking head
- Magnetic nail starter
- Curved claw and side nail puller
- Bear claw double-ended nail bar included

**£19.99**  
RRP £39.99



**1500 Piece Screw Assortment in Organiser**

XMS15FORGE

- Professional multi-purpose Pozi headed screws
- Popular single threaded screws for greater holding in a variety of materials
- Durable professional organiser
- Five No.2 Pozi screwdriver bits included

**£19.99**  
RRP £34.99

**Save £15**

**FORGEFIX**  
THE SIMPLE SOLUTION

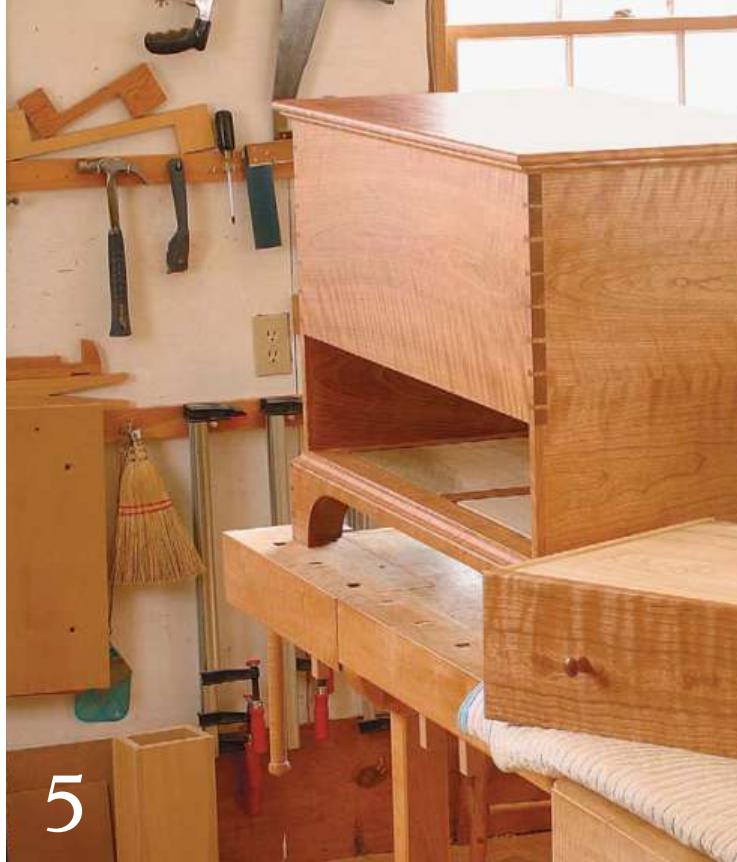


**REAL DEALS FOR YOU**

80



# In the November issue...



5



73

## COMMUNITY

- 13 News & events
- 17 Book reviews
- 30 Dendrochronology: timber as a timepiece
- 39 Kit & tools
- 58 Woodland ways – matchwood, mistletoe and fireproof flooring
- 61 Next issue
- 62 Hints, Tips & Jigs
- 70 It's never too late to learn
- 76 Group test – Abranet Ace
- 78 Q&A – expert advice

## POWER WOODWORKING

- 5 Shaker blanket chest
- 36 Plans for you – dressing table
- 46 Wood storage shed Part 1
- 52 Routed oak fanlight frame
- 65 Carve your own shoehorn
- 80 Turned Christmas ornament

## HAND WOODWORKING

- 20 Small sliding lid box
- 27 Green Woodworking – steam bending
- 56 Insight – chair making
- 73 Spice rack
- 88 Woodworking geometry – staircase

## RECYCLING & RESTORATION

- 41 Oak writing bureau

## Woodwork on the web

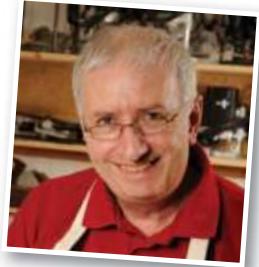
To find more great projects, tests and techniques like these, visit our fantastic website at: [www.woodworkersinstitute.com](http://www.woodworkersinstitute.com)





# Welcome

to the November issue  
of *Woodworking Crafts*

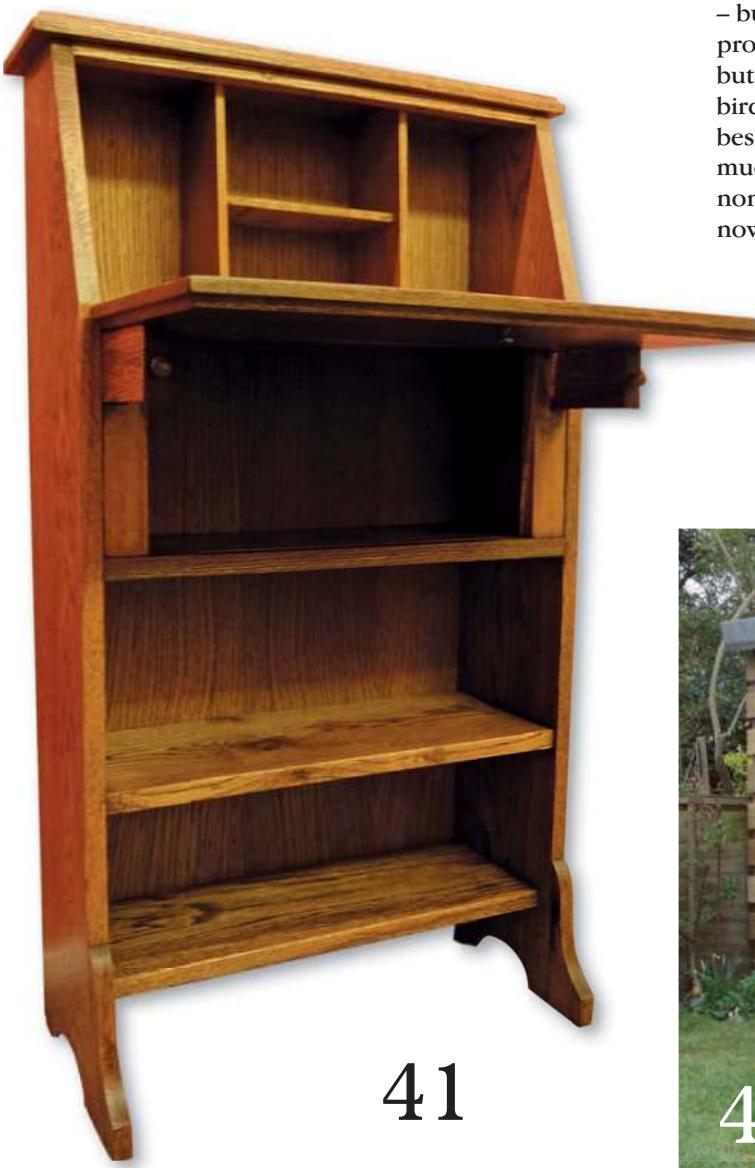


**Remember, remember it's nearly December...**

Hello everyone and welcome to the November issue of *Woodworking Crafts* magazine. I don't think it is sexist to suggest that wives and partners are rather more organised when it comes to the matter of Christmas than us men? My wife starts buying presents at least a year ahead and with specific recipients in mind. Nothing is unplanned, a list is ticked off as interesting and unusual presents are bought during the year and dare I say it, at keen prices too. Us chaps, let's face it, don't do shopping – unless it's on 'tinternet.

So, it's always an unseemly rush for the credit card at the last moment, last ditch 'shop' shopping you might say. Maybe this is when we actually need to make a resolution – buy or better still – make early for Christmas. We have a project this month for making Christmas tree ornaments, but in all our issues there are some easy projects from bird boxes to carved spoons to shelving and much more besides, all of which could make attractive, unique and much appreciated presents instead of the usual shop-bought nonsense. So go on, you know it makes sense, get making now while there is still time!

Anthony Bailey, Editor  
Email: anthonyb@thegmcgroup.com



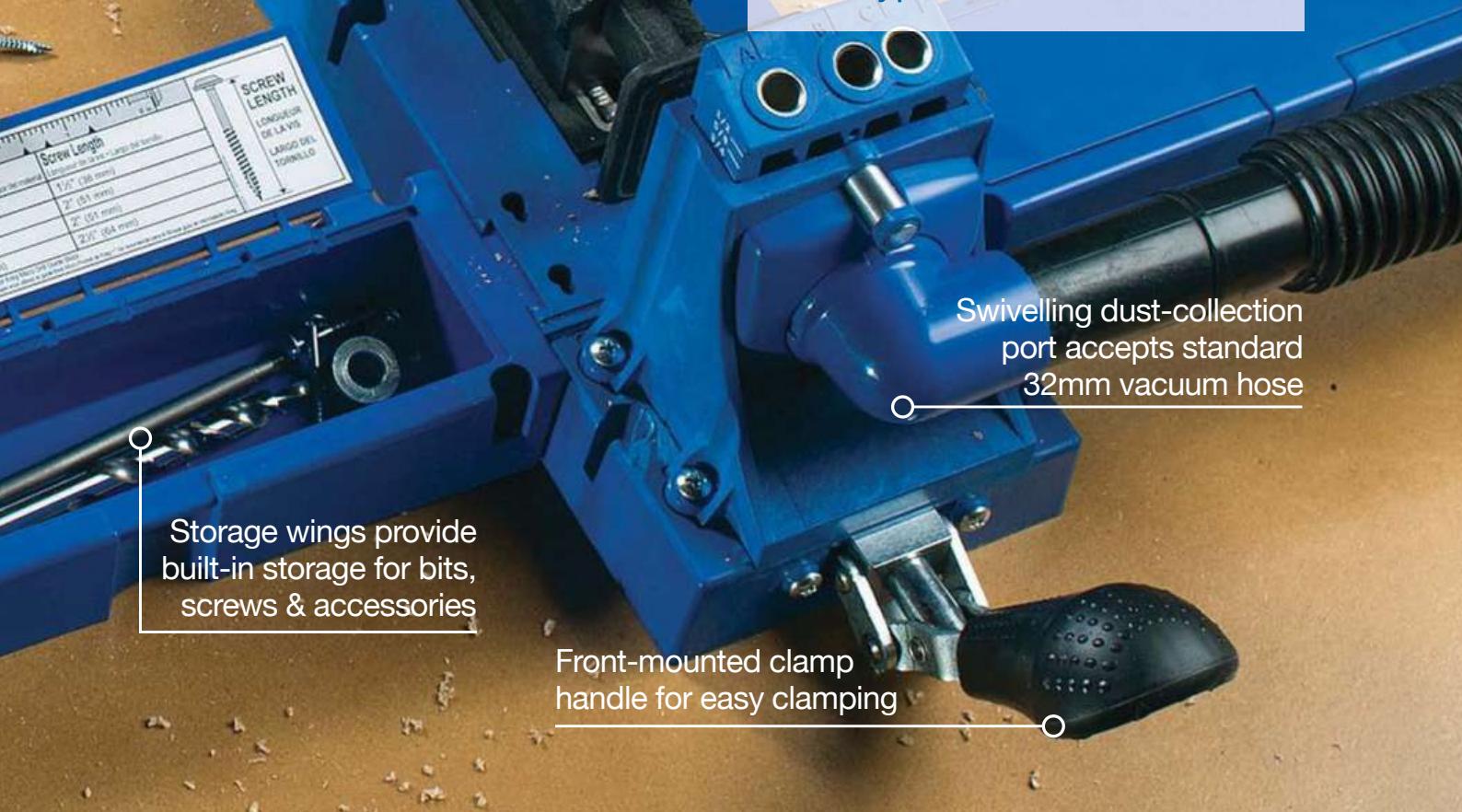


GET INSPIRED



## THE MOST ADVANCED KREG JIG® YET.

The Kreg Jig K5 combines the best features from every jig we've built before, with advanced, all-new features. Easy to set up and use, the K5 produces perfect pocket holes and creates tight joints in all types of wood.



Storage wings provide built-in storage for bits, screws & accessories

Front-mounted clamp handle for easy clamping

Swivelling dust-collection port accepts standard 32mm vacuum hose

Find your nearest stockist  
[kregtool.eu](http://kregtool.eu)





# Shaker blanket chest

In this extract taken from *Chests and Cabinets*, **Charles Durfee** makes a Shaker blanket chest

The earliest storage chests were simple boxes made of six boards. As they evolved, a base, or plinth, was added to lift them off the floor and give them aesthetic appeal. Although moulding the edges created a more finished look, anyone who used such a chest soon found that they had to fish around for small items that ended up on the bottom. To solve this problem, furniture makers added first one drawer, and then two or even three drawers. Finally, the lid was eliminated, leaving a full chest of drawers as we know it today.

During the evolution from blanket box to chest of drawers, the grain in the sides changed from horizontal to vertical. Many of the single-drawer versions exhibit an intermediate stage in this evolution, with vertical grain in the sides nailed to horizontal grain in the front, which probably is the only way they could be joined. In this piece, the older style with all horizontal grain is retained, which enables the front, back and sides to be joined

with dovetails. As long as the sides don't get too tall, this is a superior form of construction: Seasonal wood movement results in the parts moving together, instead of against each other.

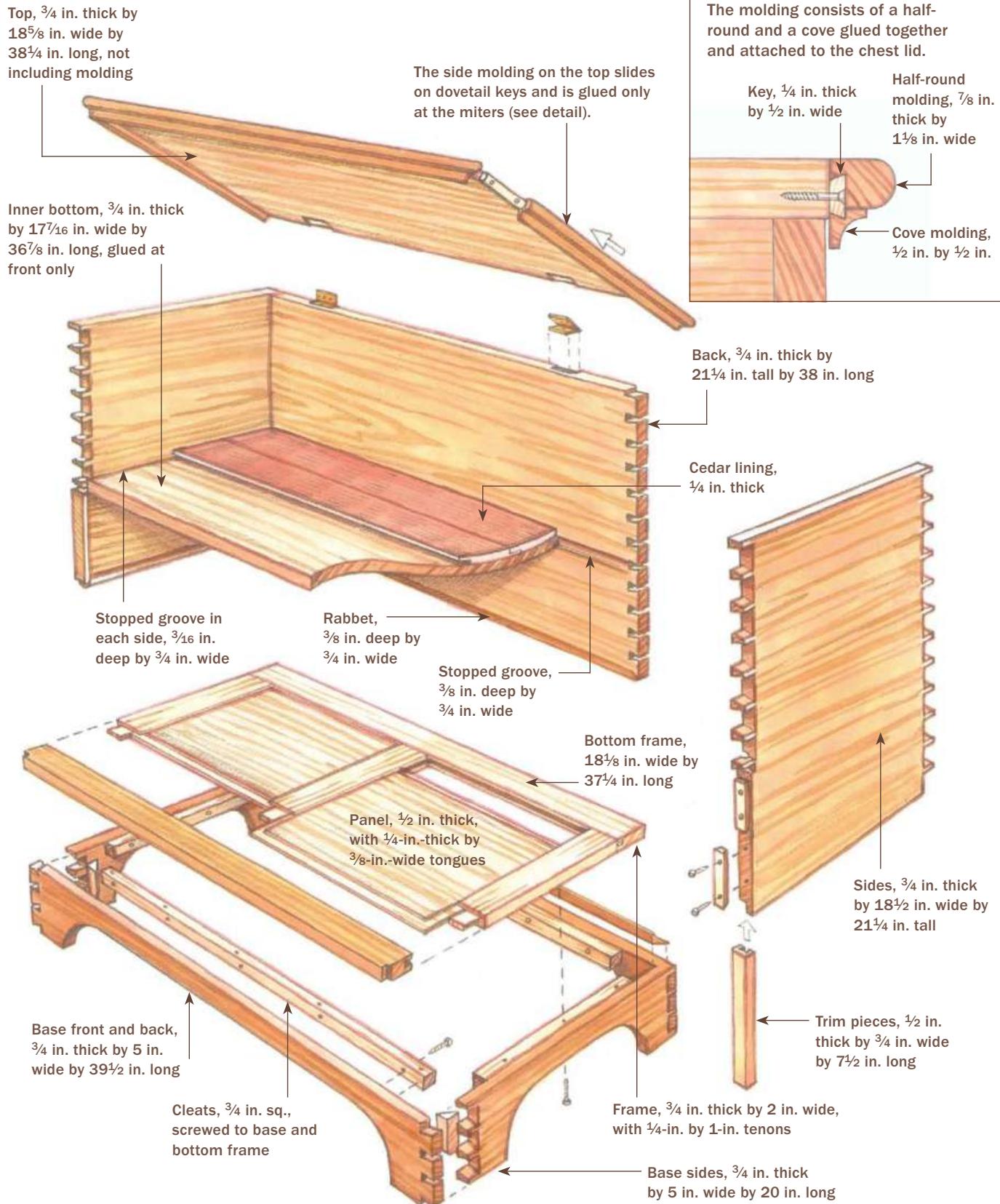
## Match the dimensions to your hand-picked boards

Although the Shakers probably would have used painted pine (*Pinus sylvestris*), modern woodworkers may prefer the natural look of fine wood. I used some excellent single-log Pennsylvania cherry (*Prunus serotina*) with lots of curl, nicely matched in grain and colour.

You may need to adjust the overall dimensions if you want to use specific boards in particular places. I made the overall height a bit less than planned so that I could use an exceptionally fine single-width board for the front. You can lay out the actual dimensions on a story stick, using one face each for height, width and depth. The story stick will give you all of the information necessary to begin construction, so you

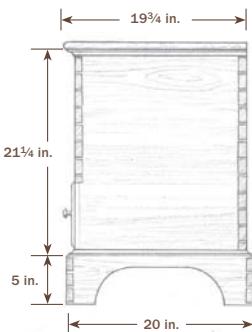
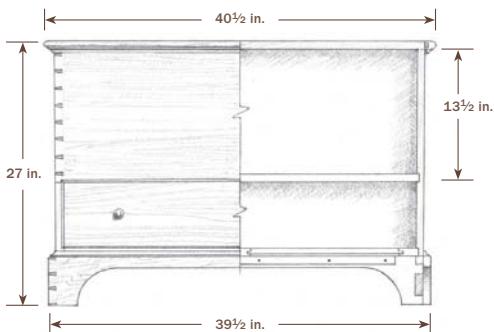
won't need any drawings.

After double-checking to ensure planning and layout make sense, mill and glue the boards for the front, sides, back, top, and drawer front. Leave the inner bottom oversize; it should be sized to just fit into its grooves. In addition, you can make up the bottom frame-and-panel. Remove any dry excess glue and flatten the boards using planes or sanders and a straightedge. To save time, I take the parts to a local mill shop and run them through a thickness sander. With the case front, back, and sides cut to size, run the grooves for the inner bottom – on the front, the groove technically is a rabbet. The grooves need to be stopped before the ends and carefully aligned from the top so that all four grooves match up. I use a  $\frac{3}{4}$ in straight bit in a plunge router and run the tool against a straightedge to ensure a straight cut. Make the rabbet for the frame-and-panel bottom in the same fashion, stopped at the rear corners only. ▶



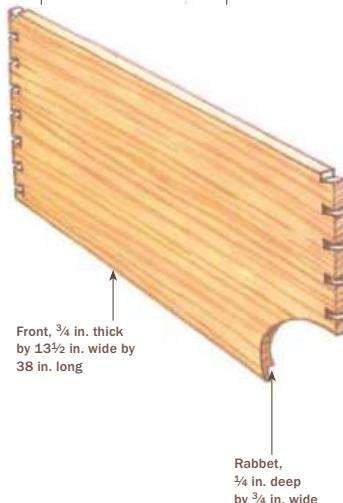
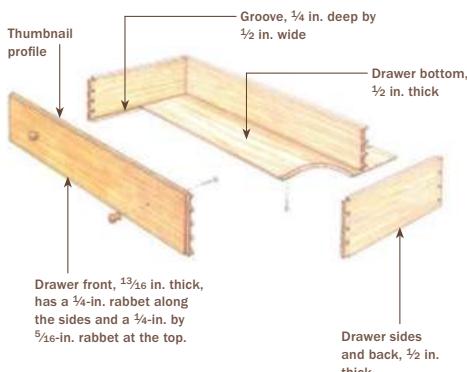
## Dovetailed blanket chest with a drawer

Because of the drawer, the front corners have fewer details than the rear corners. The dovetail spacing may be slightly different on the back than on the front but should appear to be the same.



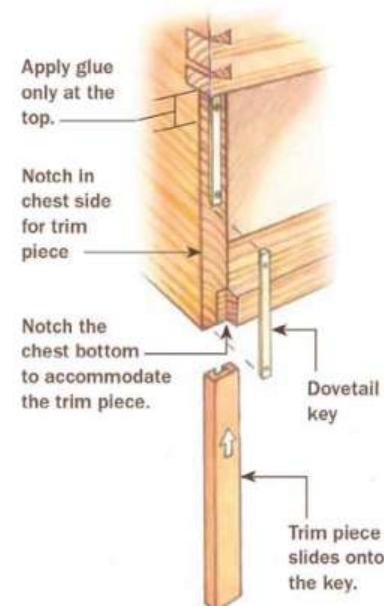
### LIPPED-FRONT DRAWER

The cherry drawer front is lipped on the top and sides. The sides, back, and bottom of the drawer are made of a secondary wood.



## Trim pieces hide the end grain

Trim pieces are attached with sliding dovetail keys that allow for seasonal movement. The pieces stop short of the bottom by  $\frac{1}{4}$  in., with the gap concealed by the cove moulding of the base



Lay out the dovetails. Use a pair of dividers to lay out the dovetails evenly. The spacing on the front corners may need to be slightly different from the spacing on the rear due to the presence of the drawer



Extend the layout to the end of the board. After marking the tails on the face of the board with a sliding bevel, extend the lines across the end of the board using a square and a knife. The knife cuts will help guide the saw as you cut

## Construct the carcass with dovetails

There are a lot of dovetails to cut in this project, so you might as well decide on a method of cutting them and stick with it. If you use a router setup, make sure the jig can handle the long row of the rear corners or has a way to index setups. I cut the dovetails with hand tools, which mostly is an exercise in marking and sawing accurately.

When laying out the joints, aim for a spacing between pins of about  $1\frac{3}{4}$  in on-centre. This chest has the peculiar problem of the front and back rows being different lengths, due to the drawer opening. Try to have the front series end with a small half pin or a small half tail, for appearance's sake. Make your scribe marks on the front edge of the sides down to the drawer opening only.

When cutting the dovetails, orient the outside face of the side toward you. Begin sawcuts at the top back corner; come across the top edge to set the ➤

saw in and then down the front face at an angle, keeping the saw completely in the kerf. Then finish the cut by raising the handle gradually. To ensure the cut is made to its full depth, I follow an old-timer's practice of cutting slightly past the scribe on the back side. After cutting the tails, check that they are square and do any necessary paring. In this way, any adjustments to get a good fit are done on only the pins.

## Use the tails to mark the pins

When marking from one part to the next, make sure the front and back are perfectly square to each side and that the grooves line up so that the inner bottom will be able to slide in. I use a very sharp pencil lead extended from a lead holder for marking. It leaves a fine line, is much easier to see than a knife scribe, and doesn't accidentally cut the tail. With the case dovetailing done, cut the recesses for the trim pieces on the lower front edges of the sides.



Line up the boards. Before laying out the pins, ensure that the boards are flat and meet at 90°



Mark the pins from the tail. With the boards secure, use a sharp pencil to transfer the location of the pins. A torch helps you see into the corners

## WHEN THINGS GO WRONG WITH YOUR DOVETAILS

Hand-cut dovetails should not be perfect and indeed rarely will be. However, some faults that occur during fitting or assembly need to be repaired because they detract from the overall appearance of the piece.

### When a test fit cracks the wood

When dry-fitting dovetails, it takes only one too-tight pin to cause a crack. This needs to be repaired before the two boards are dovetailed together. It's difficult to force glue down into the crack, but by placing the board half hanging off the bench and then flexing it while pushing the glue into the crack with your finger, you can work the glue in from both sides until the joint is saturated. Place waxed paper over the joint to protect the clamp that keeps the two sides of the crack parallel, and then place another clamp across the board to pull the crack together.



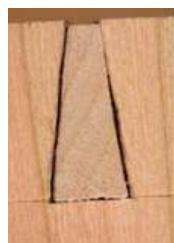
Repair a crack. While flexing the board up and down, force glue into the crack



Use one clamp to keep both sides of the crack aligned, with waxed paper between the glue and clamp, then close the crack with another clamp across the board

### Unsightly gaps between pins and tails

Don't despair if there are gaps on either side of the pins and tails. If the gaps are very narrow, you can repair them by inserting some glue and peening the tail or pin with a ball-peen hammer. The blows spread out the end grain until it fills the gaps. This method requires that the tail or pin protrude at least  $\frac{1}{16}$ in because it will be necessary to plane away the crushed surface end grain.



If the gaps are wide, the best way to fill them is by tapping in a thin wedge lubricated with a little glue. After the glue has dried, saw off the protruding part of the wedge and smooth the surface with a block plane. The end grain of the wedge will be an almost perfect match with the pin or tail.



Peen small gaps. Small gaps can be filled by inserting a little glue and then hitting the pin or tail with a ball-peen hammer. Do this before planing the pins flush so that the hammer marks can be removed



Shim larger gaps. A narrow wedge driven into the gap beside a pin will make an almost invisible end-grain repair

## Assemble the chest in stages

**1** Gluing the many dovetails is stressful enough without trying to do all of them at once. Before you start, make some cauls on the bandsaw to fit over the protruding pins. First glue the front to the sides and slide in the inner bottom, gluing the front edge into the rabbet and allowing the rest to float.

**2** When this first assembly has dried, glue on the back, again using the cauls.

**3** When the back is dry, fit and glue the frame-and-panel base into the bottom rabbet.



1



2



3

## Dry-fit the carcass before final assembly

When dry-fitting the case parts, push the joints together as much as possible by hand, then use a rubber mallet. When the joints are almost there, resort to clamps. You walk a fine line when fitting exposed dovetails: Too tight, and you risk splitting the wood; too loose, and you leave gaps between the pins and tails. Fortunately, the splits and gaps can be fixed.

For the glue-up, I make special clamp cauls to span the pins because they protrude somewhat. To make the glue-up less nerve-wracking, break down the process into steps. Assemble the front, the two sides, and the inner bottom as a unit first. The front edge of the inner bottom is glued only to the front rabbet – the rest is left unglued to allow for seasonal movement. If necessary, cut a temporary spacer to hold the rear edges in the correct alignment. The second step is to glue on the back. When the back is dry, fit and glue the base frame into the bottom rabbet. ➤

## Cap the end grain

To conceal the end grain, the sides are notched adjacent to the drawer, and trim pieces are attached over dovetail keys.

**1** After assembling the case, notch the case bottom where it intersects the sides.



1

**2** Then screw the dovetail key to the case using the trim piece to aid alignment.

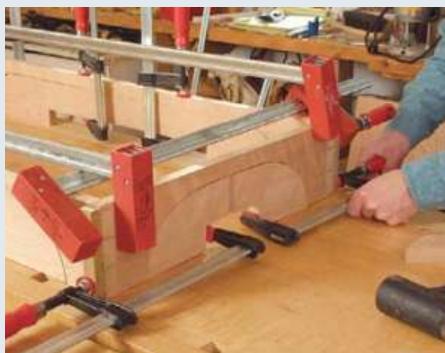
**3** Finally, saw apart the key to allow for seasonal movement of the case. Glue the trim piece only at the top.



3



2



**STEP 1:** Save the waste. After cutting the profile of the base, save the offcuts, which can be cut in two and used as clamping cauls when gluing together the base

### Conceal the end grain with trim pieces

With the carcass assembled, cut a notch in the base frame at each front corner for the trim pieces. On original Shaker chests, these trim pieces as well as the mouldings were simply nailed on, which not only caused seasonal wood-movement problems but also were aesthetically unpleasing in an unpainted piece. A more elegant solution is to attach these cross-grain



**STEP 2:** Attach the cleats. Screw cleats to all four sides of the base. Then drive screws up through each cleat to attach the base to the chest

parts with sliding dovetail keys. I vary this method slightly, screwing the key on beginning at the inboard end and pulling off the moulding, fastening as I go. The segments are cut out and the moulding slid back on with glue at the inboard end. Leave the bottom end of the trim pieces about  $\frac{1}{4}$ in short of the case bottom to allow for seasonal expansion. The cove moulding will cover the gap.

### Build the base and the top before attaching the moulding

On this chest, the base runs around all four sides, as opposed to most Early American chests, which have bracket bases on the front and sides only. Saw the dovetails first and then cut out the profile on the bandsaw; you can save the cutouts to use as clamp cauls. Nail a plywood template to the back of the base pieces and clean up the profile on the router table with a top-guided bearing bit. Screw cleats to the inside of the base and drive screws through the cleats to attach the base to the chest.

Because the mouldings overlap the top edge of the case, the top should be sized so that the front clearance is proportional to the amount of seasonal wood movement. I built this chest in the winter, and the wood's moisture content was 6%, so I sized the top with a minimal clearance of a strong  $\frac{1}{16}$ in –  $\frac{3}{16}$ in to  $\frac{1}{4}$ in should be sufficient clearance for a summer-built chest.

The top moulding consists of a half-round and a cove made on the router table and then glued together. While you're at it, make some extra cove moulding for the base. The front piece

is mitred and glued to the top, while the sides are installed over dovetail keys, with glue at the mitres only.

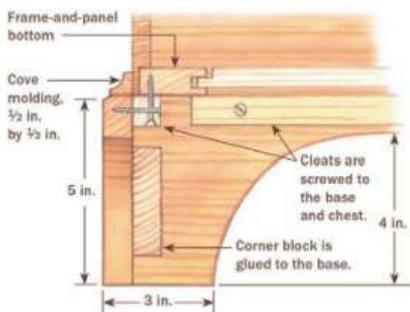
The drawer front is in the traditional style, lipped on the top and sides and moulded all around. The sides and back on my drawer are quartersawn pine, and the bottom is poplar. You can find quartered stock at any lumberyard – just look through a stack of boards for ones with growth rings perpendicular to the board's face.

Cut the drawer front first, with its side rabbets trimmed so that they just fit into the opening. The top rabbet needs to have only about  $\frac{1}{16}$ in of clearance because seasonal movement of the drawer will be in the same direction as the case. Cut the dovetails by hand, but use a Forstner bit to drill out the bulk of the waste between the half-blind pins.

### Attach the hardware and finish the piece

By now you will have something that looks like a chest. The top is secured with mortised-in butt hinges. I used extruded-brass hinges from Whitechapel – [www.whitechapel-ltd.com](http://www.whitechapel-ltd.com) – but you may opt for a more

### Install the bracket base



**STEP 3:** Fit the moulding. Because the grain on the chest runs horizontally, the base moulding can be glued to both the base and the sides

authentic style with thinner leaves. When the top is fastened, find the location for the stay. I used a brass chain, which isn't strictly traditional Shaker but still shares a similar simplicity.

Throughout the construction process, you should have been planing, scraping and/or sanding to all but the final passes. I generally take out machine marks – including the tracks left by the thickness sander – with a handplane and scraper. The final work is done with a 220-grit disk in a random-orbit sander. I used Minwax® Antique Oil Finish, but any oil/varnish mixture will work well. ■

### Chests and Cabinets

ISBN: 9781627107129

RRP £14.99, offer price £10.49 plus p&p

To order please call

01273 488005 or go to

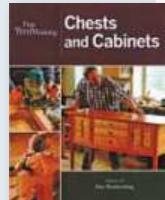
[www.thegmcgroup.com](http://www.thegmcgroup.com)

and quote code: R4946

Closing date: 28th

January 2016

Please note: p&p is £2.95 for the first item and £1.95 for each additional item.



# POWERSELECT

Simply choose. Simply combine. Simply great.



## A new generation of independence

**SERVICE**

all-inclusive



Introducing the new higher performance 5.2Ah battery and the latest Basic tool variant from Festool. The Basic tool comes without battery and charger, but with the option of using existing battery packs. It also provides the opportunity to purchase battery packs and charger separately at a later date at no extra cost.

More information on the endless possibilities of PowerSelect is now available from your specialist retailer or at [www.festool.co.uk](http://www.festool.co.uk)

**FESTOOL**

[www.festool.co.uk](http://www.festool.co.uk)

# IronmongeryDirect

MASTERS OF OUR TRADE

# UK'S BIGGEST RANGE

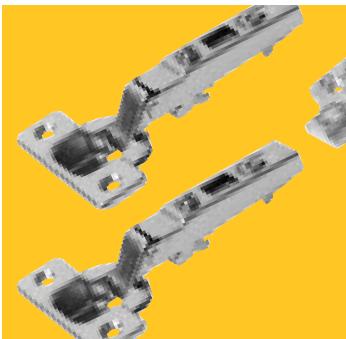


14,000 PRODUCTS IN STOCK FOR NEXT DAY DELIVERY

CALL  
**0808 168 28 28**  
OR GO ONLINE  
TO GET YOUR  
**FREE CATALOGUE**

Text: ZY4628Z to 80800  
FOR FREE!

Followed by your name,  
address and email.



ORDER BY 8PM  
GET IT NEXT DAY

FREE DELIVERY  
OVER £45\*

FREE RETURNS  
WITHIN 30 DAYS

MINIMUM  
5 YEAR GUARANTEE

LOCKED DOWN  
PRICES

CHECK OUT  
OUR MOBILE  
WEBSITE



CALL 7am-8pm 7 days a week

**0808 168 28 28**



ONLINE Shop 24/7!

**IronmongeryDirect.com**

\*Ex VAT

FIND US ON

# NEWS & EVENTS

All the latest events and news from the world of woodworking...

## European Woodworking Show



The much anticipated European Woodworking Show, courtesy of Classic Handtools was held 12-13 September, 2015 at Cressing Temple, Essex. It was extremely busy on the Saturday, while Sunday was a little bit quieter but more pleasant perhaps to wander around. There was a very wide variety of demonstrations, talks and trade stands to choose from. As always it was good to see Nic Westermann forging an axe head, ably assisted by *Woodworking Crafts* green woodworking contributor Lee Stoffer. Then you could watch Steve Woodley smooth-squaring beams with a side axe, there was carving aplenty, including EWS stalwart Lenka Pavlickova with her spooky puppets, Sophie Heron and her converted VW 'Volkswagen' camper van – off George Clarke's *Amazing Spaces*, Fiona Kingdon's complex scrollsaw work... honestly, the list was endless, with far too much to enter here. Definitely a show to add to your calendar but watch this space advertising the 2017 Show, as it will be a biennial event. Certainly this time it was well worth waiting for, a great day out and definitely a 'feel good' event!



Steve Woodley on top form dividing the trunk side before smoothing with a side axe



Above: One of Lenka Pavlickova's distinctive puppets in a running pose

Left: Inside the vast wheat barn at Cressing Temple where there were plenty of tools and supplies on sale



Nic Westermann demonstrating the stages in forging an axe head from a blank piece of steel

# National Tradesmen Day Final

IRWIN® Tools announces the winner of the 2015 National Tradesmen Day competition. Stacey Greenwell from Stoke-on-Trent impressed the expert judging panel with his dedication to the community. He was nominated for his commitment to rejuvenating, what would be derelict areas of town, in order to provide homes and jobs for those in need. He was one of hundreds of nationwide nominations and beat five other finalists to be crowned 2015s Ultimate Tradesman. As this year's winner, Stacey will drive home a brand new Ford F150 4x4 truck worth over £35,000.

Michael Potter, Associate Brand Activation Manager, IRWIN Tools EMEA commented: "The competition for this year's National Tradesmen Day was fierce but the judging panel felt that Stacey's positive impact on the community and his drive to go above and beyond his daily role, really made him stand out. Our society relies heavily on the good work of tradesmen and women but their efforts are sometimes overlooked. National Tradesmen Day aims to raise the profile of these people working behind the scenes and Stacey was very deserving of the title this year."

Winning tradesman, Stacey Greenwell commented: "I'm so thrilled to win the National Tradesmen Day



competition. It feels good to know the work I do is appreciated and this award is a testament to the great team of individuals I work alongside. I never win anything and I know my family will be really proud."

35-year-old Stacey Greenwell started his career as a Ceiling Specialist 14 years ago and now owns a successful business which he runs alongside a whole host of renovation projects. These projects involve finding and restoring residential properties to their former glory, creating new homes for local families. He also offers jobs to those struggling to find employment, giving them the opportunity and skills needed to follow a rewarding career path. He is well respected within the



industry and has become an integral part of his community.

National Tradesmen Day is a global initiative that continues to champion men and women who make a real difference through their work. IRWIN Tools continues to celebrate this invaluable workforce and encourage a new generation of talented individuals.

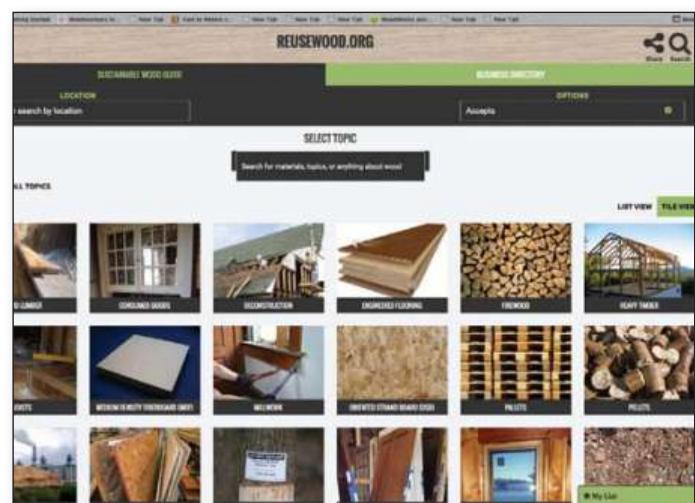
Contact: IRWIN Tools  
Web: [www.irwin.co.uk](http://www.irwin.co.uk)

## New website tells you exactly how and where to recycle wood

What happens to wood at the end of its life? The American and Canadian Wood Councils have answered the question, by launching [www.reusewood.org](http://www.reusewood.org). It is a resource that not only explains what each item is and what it is good for in a second life, but upon entering your postal or zip code, will inform you who will take it off your hands!

The website not only provides homes for end-of-life wood, but within its 'all topics' button, sits a wood encyclopaedia. It looks at everything from Architectural Salvage to Woodworking. There is also a business directory accessible by map and individual listing pages. Salvaging and reusing wood and wood-based products ultimately reduces waste, therefore lessening the impacts associated with extracting and processing resources. A considerable amount of wood used in construction – such as formwork and bracing – or in a demolition, can be salvaged and reused.

The choice of products used to build, renovate and operate structures has a significant impact on the environment. When specifying any materials, it is important to consider their life cycle environmental impacts. Wood products have less embodied



A clever and well designed website to help you recycle your unwanted wood

energy, are responsible for lower air and water pollution, and have a lighter carbon footprint than other commonly used building materials.

For more information, visit: [www.reusewood.org](http://www.reusewood.org)

CREDIT: IMAGE COURTESY OF REUSEWOOD.ORG

## Green Wood Workshop

Courses in willow weaving, coppice crafts, hurdles, hedgelaying, green woodwork, chairs and bench making, trugs and more! Commonwork at Bore Place is home to the Green Wood Workshop, which offers courses throughout the year from its fully equipped workshop on site or nearby Bore Place woodlands. Courses are run on an informal basis and are led by experienced tutors who make all or part of their living from the woods. A wide range of scheduled courses are offered for all levels of experience and in addition, courses can be arranged for groups and designed to suit your particular requirements.

**Where:** Commonwork, Bore Place, Chiddingstone, Kent, TN8 7AR  
**Contact:** John Waller  
**Email:** [info@underwoodsmans.co.uk](mailto:info@underwoodsmans.co.uk)  
**Web:** [www.commonwork.org](http://www.commonwork.org)

## The North of England Woodworking & Power Tool show 2015

The North of England Woodworking & Power Tool show is the largest and longest established retail woodworking show in the country and is a terrific day out for its thousands of visitors.

For 2015, there will be an excellent line-up of demonstrators with more than 40 taking part covering every discipline. You can expect to see demonstrations from woodturners including Stuart Mortimer, Andrew Hall, Michael Painter and *Woodturning* magazine Editor, Mark Baker.

**When:** 20-22 November, 2015  
**Where:** Hall 1, Great Yorkshire Showground, Harrogate, North Yorkshire HG2 8NZ  
**Web:** [www.skpromotions.co.uk](http://www.skpromotions.co.uk)



PHOTOGRAPH COURTESY OF HANDMADE IN BRITAIN

Three days. Over 120 makers. The ultimate shopping treat

## Handmade in Britain

This Christmas, avoid the high street and opt for handmade at Handmade in Britain '15, the annual showcase of the very best of contemporary British craft and design at Chelsea Old Town Hall. Browse exceptional crafts, buy unique and original gifts or commission a bespoke piece of work directly from over 120 of the UK's finest designer-makers, each handpicked by a panel of industry experts.

The show is a wonderful opportunity to shop for exquisite ceramics, glass, furniture, textiles, jewellery and silverware in a beautiful, historic venue. Makers will be on hand throughout the weekend to talk to you about their work and showcase their collections, inviting you to learn how your favourite pieces are made and to discover the story behind that perfect gift. On Saturday evening headline sponsor Home of Artisans will be hosting an exclusive late night shopping event, giving visitors the opportunity to enjoy browsing in a relaxed and festive atmosphere until 8pm.

**When:** 13-15 November, 2015  
**Where:** Chelsea Old Town Hall, Kings Road, London SW3 5EE  
**Contact:** Handmade in Britain  
**Tel:** +44(0) 207 2865 110 **Web:** [www.handmadeinbritain.co.uk](http://www.handmadeinbritain.co.uk)

## Helsinki Forest Fair/Metsä

Promising to be a warm and friendly weekend, the Helsinki Forest Fair attracts people from Helsinki Metropolitan Area to get to know five different events – when, at the same time, you can visit ELMA Helsinki Food & Countryside Show, Helsinki Forest Fair, Arts&Crafts Fair, OutletExpo and Pets! Last year this combination of events attracted more than 46,000 visitors.

It is an event for the forest owners, forestry professionals and people who are interested in the forest. Helsinki Forest Fair/Metsä takes place in Helsinki, Finland from 6-8 November, 2015 at Helsinki Exhibition and Convention Centre.

**When:** 6-8 November, 2015  
**Where:** Helsinki Exhibition and Convention Centre, Helsinki, Finland  
**Contact:** Messukeskus  
**Web:** [www.messukeskus.com](http://www.messukeskus.com)





PHOTOGRAPH BY GMC/ANTHONY BAILEY

## WOODWORKING IN THE NEWS

### Saving the endangered Japanese birch

The Forestry Commission's experts have successfully germinated seeds of the Japanese birch (*Betula chichibuensis*) at National Pinetum at Bedgebury, near Goudhurst in Kent. The seeds were collected last year from one of the world's most critically endangered tree species, so rare that only 21 were recorded to have grown in the wild in 1993. The Japanese birch is listed as critically endangered by the International Union for the Conservation of Nature (IUCN). It is the first time in nearly 30 years that anyone has succeeded in germinating seeds of the Japanese birch, and their success boosts hopes that the species can be saved from extinction.

Dan Luscombe, dendrologist at Bedgebury, said: "I consider myself very fortunate to have seen such critically endangered species in the wild. However, to be part of the team that can make such a significant contribution to securing the survival of a species in the wild is really exciting and rewarding.

"Propagation from seed collected from trees growing in the wild is essential to the future of endangered species, because this retains their genetic diversity. This helps make the species resilient to threats such as pests, diseases and climate change. If we only grew plants from cuttings from our own collections we'd simply produce a clone." Luscombe continues: "We face lots of challenges on a seed collecting expedition, such as remote and difficult locations, limited and infrequent fruiting times, adverse weather conditions and permits. So this successful germination is particularly exciting, and a credit to the combined knowledge and skills of the group.

"The seedlings will be grown on at Bedgebury and, once they are strong enough, some will be added to the collection at Bedgebury Pinetum and others will be shared with Oxford University. The remaining seeds will be stored in the Millennium Seed Bank at Wakehurst in West Sussex. Distributing them to different sites minimises the risk to the collection and leaves open the option of returning some seeds or seedlings to Japan for planting out in the wild if conditions there are right."

**Contact:** Forestry Commission

**Web:** [www.forestry.gov.uk](http://www.forestry.gov.uk)

IMAGE COURTESY OF WIKIPEDIA COMMONS

## Woodworkers Workshop Hand Tool Day

Woodworkers Workshop are having a Hand Tool Day, so why not visit the workshop, meet Peter Sefton and see professional demonstrations. There will be loads of tools for sale alongside hand tools sourced from some of the best English tool makers, plus you can get expert advice on buying tools and Peter will be demonstrating Hand Tool techniques.

On Saturday 28 November, 10am-4pm, they believe they have the best in-house routing demonstrations set-up in the UK and see expert demonstrations from quality imported US Brands such as WoodRiver – exclusive to Wood Workers Workshop – Incra, Woodpecker and Easy Wood Tools. You can get expert advice on buying tools and Peter will be demonstrating Hand Tool techniques.

**When:** 28 November, 2015

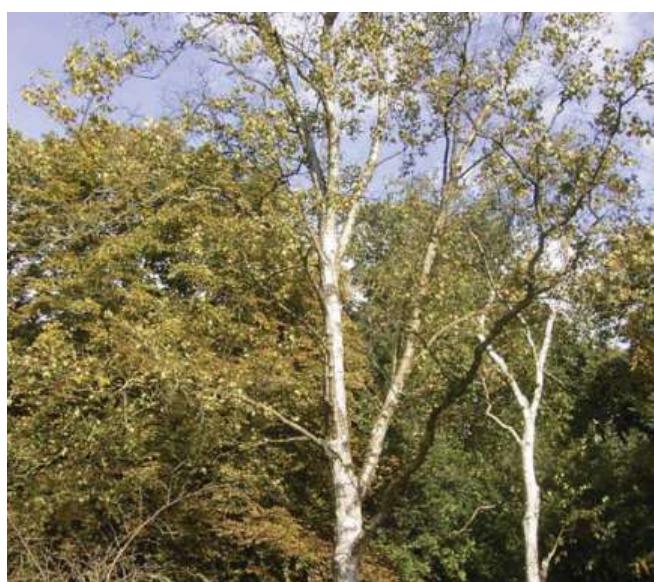
**Where:** The Threshing Barn, Welland Road, Upton Upon Severn, Worcester, Worcestershire, WR8 0SN

**Contact:** Peter Sefton

**Web:** [www.peterseftonfurnitureschool.com](http://www.peterseftonfurnitureschool.com)

## The Woodworkers Institute web forum

Why not join in the discussions on all matters woodworking on the Woodworkers Institute web forum? Covering all four GMC woodworking titles, including Woodcarving, you can view the work from fellow craftsmen, exchange useful hints and tips, or join in on the hot topic of the day on the live forums. To register, simply log on to [www.woodworkersinstitute.com](http://www.woodworkersinstitute.com), click the register button, and follow the instructions.



The Japanese birch

# BOOK REVIEWS

We review three books for you to enjoy

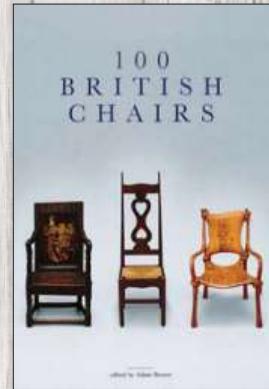
## 100 British Chairs

Edited by Adam Bowet

*100 British Chairs* is comprised of plates from a collection of encyclopaedic tomes from the Antique Collector's Club, all of which are worthy of a place in your workshop library. Largely a picture led book, it makes a good handy sized reference of design history. Divided chronologically into 14 chapters, it spans 450 years. There's not a great deal of text so don't expect a complete breakdown of each item. What you can expect is a description of each style as it relates to a particular period. At 143 pages, it's more than a greatest hits compilation.

It may be the case that Britain didn't make that many chairs of note between 1905 and 1990 because the chapter listings jump from 'Arts & Crafts Chairs, c.1885-1905' to 'John Makepeace Chairs 1990'. There might be someone else from High Wycombe out there that could pen that chapter for the revised edition.

Despite this, however, it's still a good volume and more indicative perhaps of an establishment finding it hard to accept Mid-Century Modern as a relevant contribution to the overall story of British Chairs.



ISBN: 9781851497973

Price: £25

Web: [www.antiquecollectorsclub.com](http://www.antiquecollectorsclub.com)

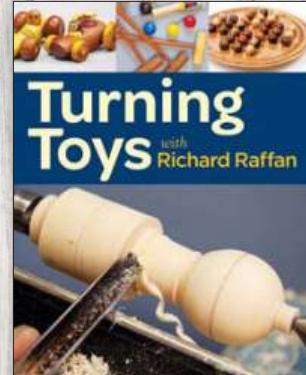
## Turning Toys with Richard Raffan

by Richard Raffan

*Turning Toys with Richard Raffan* is a fun glossy book with 18 great projects, which would all make brilliant gifts for young children! Each project is a traditional toy design and each demonstrates an essential skill-building technique, with step-by-step high quality photographs and drawings to help you along the way. With his clear instruction, Richard aims to 'help you work smarter and faster to produce better work, no matter what you're turning'. The text throughout is in large print, which is exceptionally useful while reading it in the workshop!

Not only does Richard provide these 18 fun projects, but he also tells you precisely how to choose the correct tools and wood for your work; solve and avoid common turning problems; select easy and safe finishes for your toys and more. There are safety boxes scattered throughout the guide, which one should be sure to take note of.

Before Richard gets into the projects, and after a short introduction and overview, the author looks at the basics of turning cylinders, dowels and wheels, and most importantly workshop safety. Following on from these chapters, are the projects. These include; wheely bug; racing car; peggies; wands; stackers; spheres; fruit and vegetables to 'cut'; a croquet set; teether and rattle; nesting tubs; a goblet; bilboquet; spinning tops; balance tray; and table skittles. There is certainly a toy for every child in Richard's book!



ISBN: 9781621130109

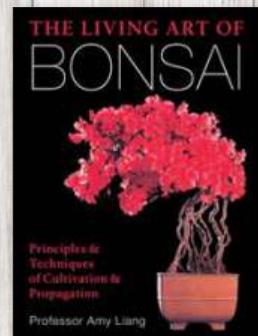
Price: £16.99

Web: [www.gmcpubs.com](http://www.gmcpubs.com)

## The Living Art of Bonsai

by Professor Amy Liang

If you're looking for some inspiration, or you're considering taking up a new miniature hobby, don't overlook the humble bonsai. This book acts as both a comprehensive introduction to the art and a compendium of tips and techniques for those with a well-cultivated bonsai hobby. Full of large, clear photographs of miniature trees and whole miniature landscapes, there's no end of inspiration for Oriental-style gardens and wonderlands. *The Living Art of Bonsai* also includes the science behind how to care for these tiny trees, and the history and culture behind the practice. This is a fascinating read, and the images are sure to spark your imagination and inspire you to create your own.



ISBN: 9781454912217

Price: £17.99

Web: [www.sterlingpublishing.com](http://www.sterlingpublishing.com)

**Clarke****4" BELT/  
6" DISC  
SANDER**

CS4-6D

£84.99  
EXC.VAT£101.99  
INC.VAT

- Dust extraction facility
- 4" x 36" belt tilts & locks 0-90°
- 225mm x 160mm table, tilts 0-90°
- 370w, 230v motor

**Clarke****6" BELT/  
9" DISC  
SANDER**

- Includes stand
- 1 Hp / 230v/ 1ph motor

CS6-9C

£209.00  
EXC.VAT£250.80  
INC.VAT**NEW****4" BELT/  
8" DISC SANDER**

- Includes two tables • 550w 230v motor.

CS4-8

£139.98  
EXC.VAT£167.99  
INC.VAT**Clarke****1" BELT & 5"  
DISC SANDER**

- Inc. 2 tilt/lock tables and mitre gauge
- 300w motor

CBS1-5

£64.99  
EXC.VAT£77.99  
INC.VAT**Clarke****DISC SANDER  
(305MM)**

- Powerful, bench mounted disc sander • 900W

- No load disc speed: 1490rpm

- 305mm Disc Dia. (1 x 60 grit sanding disc included)

- Dimensions (LWH): 440x437 x386mm

CDS300B

£119.98  
EXC.VAT£143.99  
INC.VATOVER 20 GREAT  
STYLES IN STOCK

11.8kW

£89.98  
EXC.VAT£107.99  
INC.VATLARGE & XL MODELS  
IN STOCK

6.9kW

POT BELLY

BARREL

6kW

£249.99  
EXC.VAT£298.99  
INC.VATFLUES, COWLS &  
ACCESSORIES IN STOCK

BUCKINGHAM

£155.98  
INC.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

# was £227.98 inc.VAT

# was £155.98 inc.VAT

#



**Clarke**  
**MORTISING  
MACHINE** CBM1B

• Accurately creates deep square recesses • Table size 150 x 340mm • Maximum chisel cap. 76mm • Robust cast iron base & column ensures stability & accuracy • 95mm depth of cut

£149.98 EX VAT  
£179.98 INC VAT

"It is fast and accurate with a good solid feel...Excellent value for money, I'm really pleased with it." See [www.machinemart.co.uk](http://www.machinemart.co.uk)

CHISELS AVAILABLE FROM  
£6.99 EX VAT £8.39 INC VAT

**FOR OVER  
15,000  
PRODUCTS**  
INCLUDING  
**NEW Xtra**  
**WOODWORKING MACHINES**  
visit [machinemart.co.uk](http://machinemart.co.uk)

**NEW 500 PAGE  
CATALOGUE**  
**1100**  
PRICE CUTS &  
NEW PRODUCTS



**GET  
YOUR  
FREE  
COPY  
NOW!**

- IN-STORE
- ONLINE
- PHONE

0844 880 1265

**Clarke** WOODWORKING VICES

FROM ONLY  
£13.49 EX VAT  
£16.19 INC VAT

**Record** WV7

MODEL	MOUNTING	JAW (WIDTH/OPENING DEPTH/mm)	EXC. VAT	INC. VAT
Clarke	Bolted	150/152/61	£13.49	£16.19
Stanley	Clamped	72/60/40	£16.99	£20.39
Multi Angle				
Record V75B	Clamped	75/50/32	£19.98	£23.98
Clarke WV7	Bolted	180/205/78	£24.99	£29.99

**airmaster** TURBO AIR COMPRESSORS



FROM ONLY  
£79.98 EX VAT  
£95.98 INC VAT

8/250

HUGE  
RANGE OF  
AIR TOOLS  
IN STOCK

• Superb

range ideal for DIY, hobby & semi-professional use

\*Twin

MODEL	MOTOR	CFM	TANK	EXC. VAT	INC. VAT
Tiger 8/250	2HP	7.5	24lt	£79.98	£95.98
Tiger 7/250	2HP	7	24lt	£89.98	£107.98
Tiger 11/250	2.5HP	9.5	24lt	£119.98	£143.98
Tiger 8/510	2HP	7.5	50lt	£129.98	£155.98
Tiger 11/510	2.5HP	9.5	50lt	£149.98	£179.98
Tiger 16/510*	3HP	14.5	50lt	£219.98	£263.98
Tiger 16/1010*	3HP	14.5	100lt	£269.98	£323.98

**Clarke**  
**BOSCH**  
Power Tools

**JIGSAWS**

FROM ONLY  
£12.99 EX VAT  
£15.59 INC VAT

• DIY Professional

£59.98 INC VAT

MODEL	POWER	DEPTH (mm)	OF CUT (WOOD/STEEL)	EXC. VAT	INC. VAT
Clarke CJS380*	420W	55/6mm	12.99	£15.59	
Clarke CNT50#	750W	80/10mm	£24.99	£29.99	
Bosch PST700E*	500W	70/4mm	£44.99	£53.99	
B & D KSTRK-BG#	600W	85/5mm	£66.99	£80.39	

**BISCUIT JOINTER**

• 860W Motor
• 11000rpm Operating Speed
• 14mm Cutting Depth
• DIY
• Includes flexible drive kit for grinding/polishing/sanding

£49.98 EX VAT

£59.98 INC VAT

BJ900

VISIT YOUR LOCAL SUPERSTORE OPEN MON-FRI 8.30-6.00, SAT 8.30-5.30, SUN 10.00-4.00

BARNESLEY	Pontefract Rd, Barnsley, S71 1EZ	01226 732297
B'HAM GREAT B	4 Birmingham Rd.	0121 358 7977
B'HAM HAY MILLS	1152 Coventry Rd, Hay Mills	0121 771 3433
BOLTON	1 Thynne St, BL3 6BD	01204 365799
BRADFORD	105-107 Manningham Lane, BD1 3BN	01274 390962
BRIGHTON	123 Lewes Rd, BN2 3QB	01273 915999
BRISTOL	1-3 Church Rd, Lawrence Hill, BS5 9JJ	0117 935 1060
BURTON UPON TRENT	12a Lichfield St, DE14 3QZ	01283 564 708
CAMBRIDGE	181-183 Histon Road, Cambridge, CB4 3HL	01223 322675
CARDIFF	44-46 Ctry Rd, CF24 3DN	029 2046 5424
CARLISLE	85 London Rd, CA1 2LG	01228 591666
CHELTENHAM	84 Fairview Road, GL52 2EH	01242 514 402
CHESTER	43-45 St. James Street, CH1 3EY	01244 311258
COLCHESTER	4 North Station Rd, CO1 1RE	01206 762831
COVENTRY	Bishop St. CV1 1HT	024 7622 4227
CROYDON	423-427 Brighton Rd, St. Croydon	020 8763 0640
DARLINGTON	214 Northgate, DL1 1RB	01325 380 841
DEAL (KENT)	182-186 High St, CT14 6BQ	01304 373 434
DERBY	Dewent St, DE1 2ED	01322 290 931
DONCASTER	Wheatley Hall Road	01302 245 999
DUNDEE	24-26 Trades Lane, DD1 3ET	01382 225 140
EDINBURGH	163-171 Piersfield Terrace	0131 659 5919

21457RH

Calls to the catalogue request number above (0844 880 1265) cost 7p per minute plus your telephone company's network access charge. For security reasons, calls may be monitored. All prices correct at time of going to press. We reserve the right to change products and prices at any time. All offers subject to availability, E&OE.

**FOR OVER  
15,000  
PRODUCTS**  
INCLUDING  
**NEW Xtra**  
**WOODWORKING MACHINES**  
visit [machinemart.co.uk](http://machinemart.co.uk)

**NEW 500 PAGE  
CATALOGUE**  
**1100**  
PRICE CUTS &  
NEW PRODUCTS



**GET  
YOUR  
FREE  
COPY  
NOW!**

- IN-STORE
- ONLINE
- PHONE

0844 880 1265

**Clarke**

10" SLIDING  
COMPOUND  
MITRE SAW

• For fast, accurate cross, bevel & mitre cutting in most hard & soft woods • 1800W motor • Laser guide

£129.98 EX VAT  
£155.98 INC VAT

**Clarke** MITRE SAW STAND

CFMS11  
• Suitable for most sizes/makes of saw  
• Inc. outriggers & rollers  
£64.99 EX VAT  
£77.98 INC VAT  
NEW FOLDING MITRE SAW STAND IN STOCK - CONNW1 ONLY £119.98 INC VAT

**MITRE SAWS**

TH-SM 2534  
• Quality range of mitre saws and blades available  
MAKITA  
FROM ONLY  
£56.98 EX VAT  
£68.39 INC VAT

• Model Blade Dia Max Cut Inc. Bore (mm) Depth/Cross VAT  
Einhell 210/30 55/120mm £56.99 £68.39  
Fury 3 210/25.4 60/220mm £119.98 £143.98  
Einhell 250/30 75/340mm £159.98 £191.98  
Makita 260/30 95/130mm £199.98 £239.98  
LS1040

• Einhell 210/30 55/120mm £56.99 £68.39  
TH-MS 2112

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £68.39

• Fury 3 210/25.4 60/220mm £119.98 £143.98

• Einhell 250/30 75/340mm £159.98 £191.98

• Makita 260/30 95/130mm £199.98 £239.98

• Einhell 210/30 55/120mm £56.99 £6



# Small sliding lid box

Our American correspondent **Michael T Collins** thinks inside the box with this object lesson in box construction

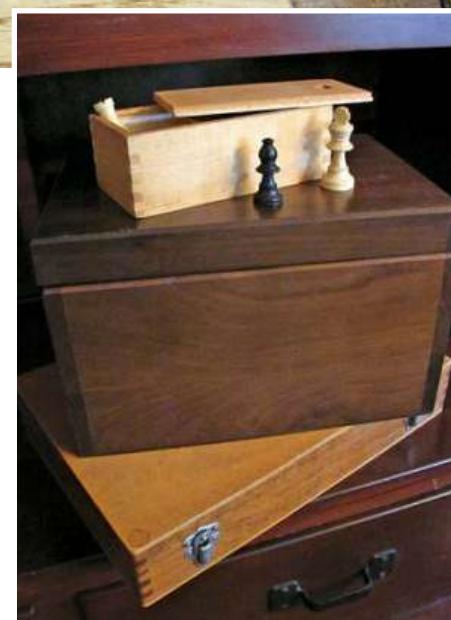
I have been fascinated with boxes for as long as I can remember and have amassed quite a collection, ranging from simple rectangular boxes to more complex sculpted puzzle boxes that I have long since forgotten how to open.

In this article I am going to take you through the steps of creating a simple sliding lid box using some new techniques. The size can be as large or small as you like. This box will be 75 x 63 x 230mm made from a scrap of white oak (*Quercus alba*) 12 x 63 x 660mm. The top and bottom are made from a piece of rip-sawn cherry (*Prunus serotina*).

So far in this series we have looked

at large joints. Making this box is going to require some finer joinery and will be less forgiving. You might want to practise the techniques covered using softer wood such as poplar (*Populus spp.*) or pine (*Pinus spp.*).

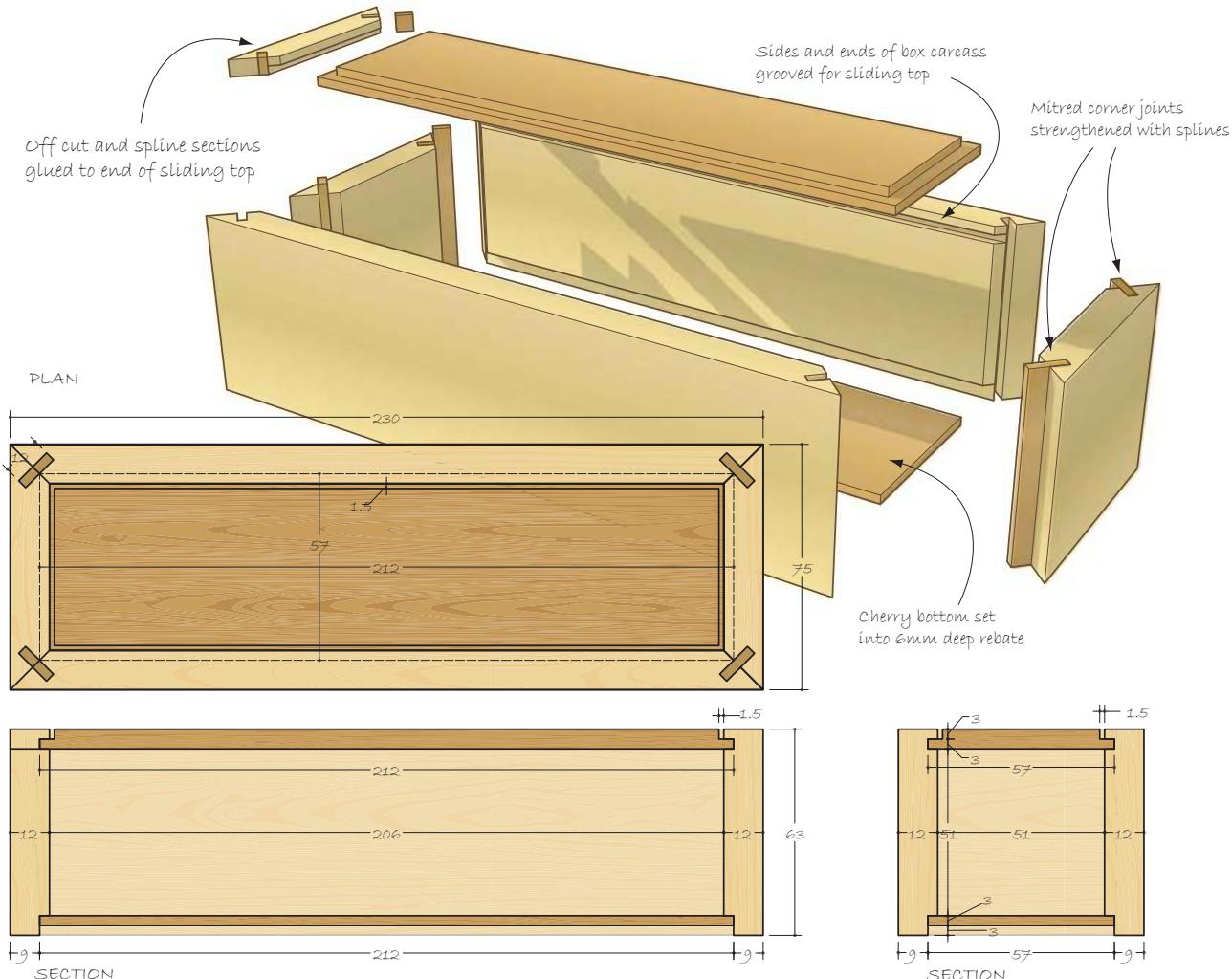
There are many ways to join box corners, from a simple butt joint, lapped joints and finger joints through to dovetails. But if you want an unbroken flow of the wood's grain around the corners, the only one available is a butt mitred joint. We could also use a 'secret' dovetail – one where the dovetail is hidden inside the mitre – but this is a much more complicated joint to execute.



Some of the boxes in my collection

## What you will need:

Time to add three new 'necessary tools' to the toolbox: a combination square, cutting gauge and a homemade mitre box. You will also need a combination plane or plough plane, 3mm and 6mm cutter, block plane, crosscut and tenon saw. A couple of extra clamps would also be useful.



The problem with butt joints as we saw in issue 3, is that they produce a very weak joint unless some additional mechanical device is used. Although, having said that, I have several boxes whose mitres are simply glued and have lasted many years – it all depends on the ‘abuse’ that the box encounters. One trick I learned is to spread some watered-down PVA glue on the mitre cuts and let it soak into the wood. Once dry, the glued joint will hold much better.

But let’s look at a more secure method – enter the spline joint.

### The spline joint

This joint is similar in construction to a tongue-and-groove joint, but instead of a tongue it consists of two matching grooves lined up and facing each other. A thin piece of wood – a spline – is then glued between the two grooves.

### Cutting the lid’s groove and bottom rebate

**1** Bring the wood to final dimension, marking the face and edge. It’s much easier to cut the groove and

rebate while the wood is still in one piece – planing a groove in a short piece of wood is fraught with difficulties. Using the combination plane and a 3mm cutter, set the fence to 3mm and the depth stop to 3mm. Plane the groove starting at the end farthest from you and working back towards yourself. Place the wood at the edge of the bench so that the plane’s fence can reference off the bench and wood’s edge. Pay attention to the grain direction – you want the grain to be rising up and away from you. However, working with wood is always a compromise; the grain will be with you in one direction but against you when you plane in the other direction. If you have unruly grained wood use very sharp cutters and take thin shavings.

**2** The rebate or shoulder is cut using a depth of 3mm and 6mm wide. Once the groove and rebate have been cut, the mitres can be cut. To do this you will need a mitre box – this can be bought but it is very easy to make your own. ▶



1



2

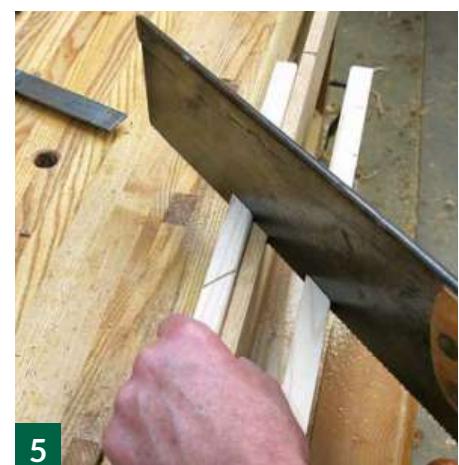
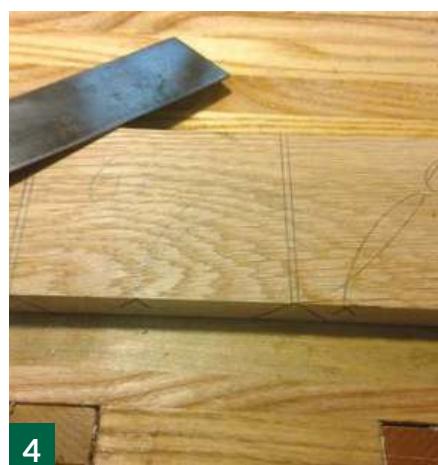
## Making a mitre box

**3** Very accurately create a U-shaped box with sides and bottom secured with screws, from the side, at 90° – the height needs to be greater than the wood you are going to mitre. Then with a combination square mark two intersecting 45° lines – carry these lines down the sides. Then, very carefully, saw vertically down with your crosscut saw.

## Box layout

**4** Lay out the four parts of the box in the order they will form the box, this will produce the desired wrap-around grain.

**5** Use a crosscut saw to cut the mitres. Always saw from the face side to avoid tear-out, which should be minimal due to the fine saw kerf. Number the pieces to keep them in the right order and orientation. Use the block plane to lightly clean the mitre's surface. To avoid tear-out, plane at an angle so that the fibres are sliced. One of the end pieces needs to have the section above the groove removed – use a fine kerfed saw to cut off the section above the groove. Keep this piece as it will be needed later to form the end of the lid.



## Planing the spline groove

**6** The spline groove which is cut into the end of each mitre is 6mm deep x 3mm wide, which when assembled will give a 12mm slot for the spline – this is a very tricky process so make a few extra pieces to practise on. Tightly clamp the adjoining corners face side together, making sure that they are square and form a 90° angle. With the combination plane set the depth stop to 6mm and the fence offset so that the groove will be in the deepest part of the mitre. Carefully plane the end grain just enough so that you can see where the cutter will exit the wood. At this point, score both sides of the exit ...



**7** ... or use a scrap piece of wood to eliminate tear-out as the cutter exits. A razor-sharp cutter is needed here. Take your time planing the spline so that again any tear-out is kept to a minimum. Repeat this process for all the grooves.



## Making the top and bottom

**8** The top and bottom are ripped from a piece of 12mm thick cherry. The top is 6mm and the bottom 3mm.

Marking the location of the saw cut with a marking gauge, place the wood in the vice at 45° and rip. Pay attention to the start of the cut – if the saw seems to be drifting off course, twist the saw in the direction of drift – for example if the saw is drifting to the right of the line twist the handle to the right (clockwise) to pivot the saw back on track.

**9** Once ripped, plane off the saw marks...

**10** ... and cut both pieces to size. The top will need to be 6mm wider and longer to account for the 3mm groove. The bottom should be a hair under the distances between the rebate. For the lid, use a cutting gauge or set the combination plane's knicker to mark a 5mm rebate on the end grain, this will prevent the fibres from tearing as the plane slices across the grain.

**11** A 5mm rebate will give a 1.5mm gap around the lid – make this a hair over 3mm if you want a tight-fitting lid. Adjust the depth stop to 3mm and cut the lid's rebate. Glue the piece that was removed earlier to the lid securing it with masking tape and placed it under a weight.

### Making the splines

**12** The splines are 12 x 3mm and cut from the extra wood of the top – I use a cutting gauge, from both sides, to 'rip' the pieces – you could also use a knife and a straightedge.

**13** Assemble the box and insert the splines to test the fit – the splines should slide in without being forced.

**14** They should be slightly less than 12mm so that the mitred faces come together with room for glue. Bring the size down using a block plane. With small pieces, it is easier to hold the plane upside-down and pull the spline across the sole of the plane – just watch out for the blade!

### Glue up

**15** Make sure that you have the pieces in the right order and facing the right way up. Glue the splines in place first then glue the bottom in – gluing the bottom in will ensure the box is square. ➤



9



10



11



12



13



14



15

**16** Depending on where the splines fall in the mitre, you may need to trim the bottom corners because the rebate cuts into the spline area.

**17** Use cauls to protect the wood – I cover mine in electrical tape, which resists glue adhesion. Check for squareness.

**18** Once the glue has dried, fit the lid again. Depending on where the splines fall, the corners of the lid's leading edge may need to be trimmed off, alternatively, the small piece of spline that's in the groove could be carefully removed. It certainly needs to be removed where the lid enters the box. Use a slicing action to do this.

**19** To complete the look – a small piece of spline can be added to the lid.

## The finish

**20** Bring all the splines flush and ease all the edges with the block plane, then sand the whole box following the grain with 220 grit and wipe off the dust with mineral spirits.

**21** My go-to finish is an oil varnish mix – two or three coats, the first of which is liberally applied and allowed to soak in; any excess is wiped off with a lint-free cloth. Lightly sand with 320 grit between coats, wiping off the dust with mineral spirits. Be particularly careful not to get too much finish in the lid's groove. Once dried apply a good quality furniture paste wax and buff to a shine.

Box making offers endless possibilities so why not get in the 'groove' and make yourself a classic sliding lid box. ■

## Michael T Collins

British-born Michael has been working with wood off and on for 40 years. He moved to New York in 1996 and over the years, has made bespoke furniture, including clocks, inlay work, Adams fireplaces, book cases and reproduction furniture.

**Web:** [www.sawdustandwoodchips.com](http://www.sawdustandwoodchips.com)  
**Twitter:** @sawdustandwood



16



17



18



19



20



21

## Disposing of finishes

Since most finishes contain Volatile Organic Compounds (VOC) it is important to dispose of the cloth following the manufacturer's instructions – I lay mine out flat on a cement floor until dry.

Issue 7 November 2015  
HAND, POWER & GREEN WOODWORKING • TURNING • RESTORATION • DIY

# Woodworking CRAFTS

*Make a sliding lid box*

**PROJECTS**  
Shaker blanket chest  
Christmas ornament  
Carve a shoehorn  
Fanlight surround

**Features**  
Woodland ways  
Dendrochronology

**TECHNIQUES**  
Oak bureau restoration  
Woodworking Geometry

**WOOD STORAGE SHED** **EASY PINE SPICE RACK** **STEAM BENDING WOOD**



**SAVE UP TO 30%**  
WHEN YOU  
**SUBSCRIBE**

**FREE  
EARLY  
DELIVERY**

+ projects techniques kit&tools features regulars  
hotstuff plans book reviews craftsman's corner  
DIY furniture noticeboard events&news

**DIRECT  
TO YOUR  
DOOR**

**You pay less than £3 an issue!**

by Direct Debit

## 3 EASY WAYS TO SUBSCRIBE

**Call** +44 (0) 1273 488005



[www.thegmcgroup.com](http://www.thegmcgroup.com)

Please quote order code A4807



**FREEPOST RTHA -TGLU -CTSK,**  
GMC Publications Ltd, 166 High Street,  
Lewes, BN7 1XU (please affix a stamp if posting from overseas)

**YES! I would like to subscribe to Woodworking Crafts**

### Subscriber details

Title  Initial  Surname

Address

Postcode  Country

Telephone  Email

### Payment methods (please tick and fill in chosen option)

I enclose a cheque made payable to GMC Publications Ltd, or  Please debit my credit/debit card

Card No.

Start date   Expires   Security code

Signature  Date

Direct Debit

### Instructions to your Banks or Building Society

Name of account holder

Originator's identification number

Bank or Building Society account no.

Reference number (office use only)

Bank or Building Society sort code



Name and full postal address of your Bank or Building Society

Instruction to your Bank or Building Society:  
Please pay GMC Publications Ltd Direct Debits from the account detailed in this instruction subject to the safeguards assured by the Direct Debit guarantee. I understand that this instruction may remain with GMC Publications Ltd and, if so, details will be passed electronically to my Bank/Building Society.

Banks and building societies may not accept direct debits for some types of accounts.

Name

Address

Postcode

Signature

Date

**The Direct Debit Guarantee:** This guarantee is offered by all Banks and Building Societies that take part in the Direct Debit Scheme. The efficiency and security of the Scheme is monitored and protected by your own Bank or Building Society. Please see your receipt for details. GMC Publications Ltd will ensure that you are kept up to date on other products which will be of interest to you. If you would prefer not to be informed of future offers, please tick this box

Offer expires 31/12/2015. Plus free gift with some issues; sorry not available overseas.

A4807



**SJÖBERGS**  
OF SWEDEN

THE NEW GENERATION



## Hobby Plus 1340 Workbench

complete with **Storage Module**  
and **Accessory Kit\***

This top quality, Swedish made workbench will be a welcome addition to any workshop. It is built to give service for years to come. Made from home grown selected Scandinavian timber.

If you take your woodworking hobby seriously or are a professional looking for an additional bench, these are made for you. The trestles and underframe are solid timber and only require a minimal amount of self assembly.

A solid birch top provides a traditional resilient work surface. The vices and top feature dog holes (with 4 bench dogs supplied), allowing larger items to be securely clamped.

Length 1,470mm – Width 500mm – Height 820mm

**BriMarc**  
TOOLS & MACHINERY

To find your nearest **Sjöbergs stockist** call 03332 406967 or visit [brimarc.com/1340](http://brimarc.com/1340)

Prices include VAT and are valid until 31st December 2015 or while stocks last



TURNERS TOOL BOX

DAVID MARTIN

**CREATIVE WELSH WOODTURNING LTD.**  
Turners Tool Box.Com  
WOODTURNING – WOODWORKING – WOODCARVING  
TOOLS & ACCESSORIES

LOG ON To:

[www.turnerstoolbox.com](http://www.turnerstoolbox.com)

Robert Sorby  
Patriot Chuck

New  
Stylus Pen Kits  
Majestic Pen Kits

Something for everyone

Axminster SK114  
Evolution Chuck

Colt HSS-M2 150mm Pen Drill Bits  
Sizes from 7mm upwards

New  
Workshop Safety  
Protection against  
Dust



DELIVERED WORLD WIDE

For more information or to place your order visit [www.turnerstoolbox.com](http://www.turnerstoolbox.com) Order online Open 24hrs  
All at the click of a button and delivered straight to your door. Or place your order over the telephone  
Email: [info@turnerstoolbox.com](mailto:info@turnerstoolbox.com) – Tel: 01873 831 589 – Mobile: 07931 405 131



# GREEN WOODWORKING

# Steam bending

**Peter Wood** explains how to steam wood and makes a bow for a Windsor chair

In this article I will look at the art of steam bending and demonstrate how you can bend a simple bow for the back of a Windsor chair. In previous articles I've examined using a shavehorse and cleaving so I will concentrate here on the practicalities of steaming the blank. You can create many jigs, bending straps and other aids to make the bending easier but I'm going to show you my simple way of bending without the use of anything complicated, so it is easy to replicate in your workshop without the need for specialist equipment.

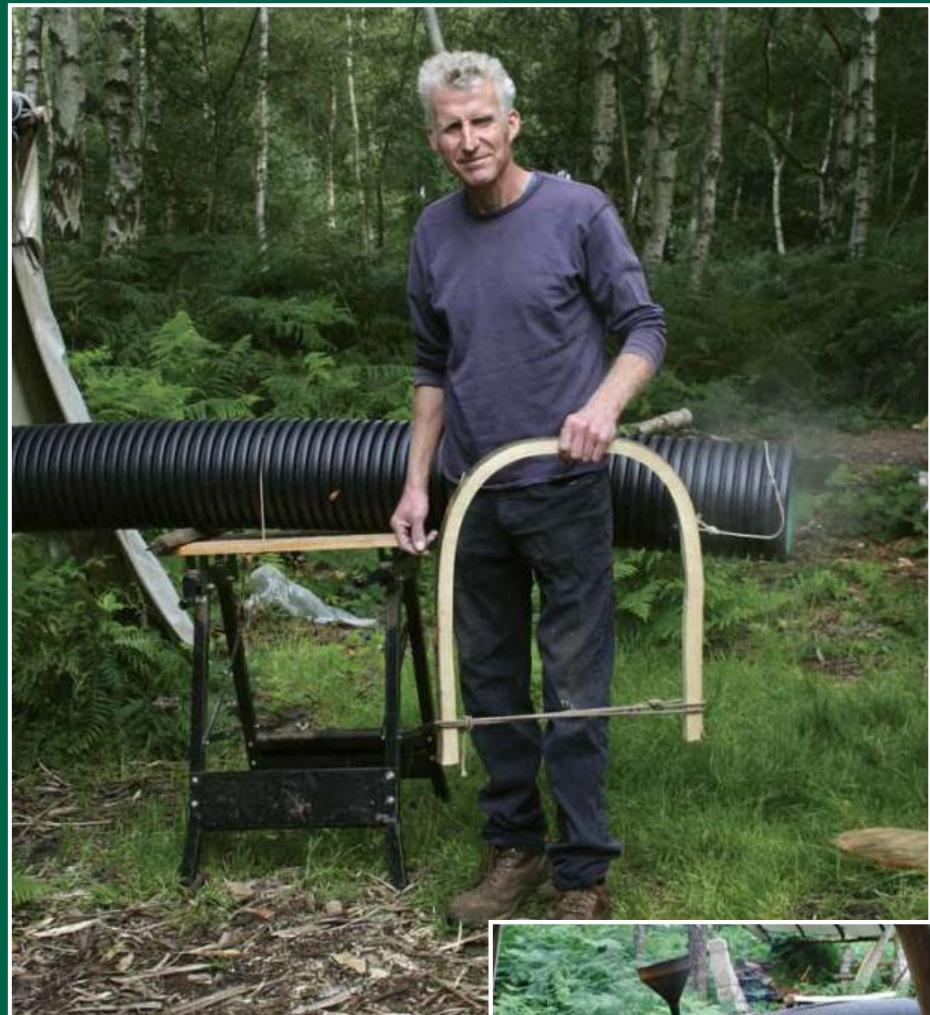
## Steam bending equipment

My equipment is very simple; I need to produce a constant flow of steam, I need a container to hold the steam and the wood to be bent and I need a former to shape the wood around.

My steam generator is an old gas bottle – gas removed! – with an extra pipe added that runs to almost the bottom of the bottle. This pipe allows me to fill the bottle with water. Most of the time the steam generated is forced out of the original connection but as the bottle runs dry, steam comes out of the filler indicating more water

## Health and safety

Steam bending can be dangerous so you'll need to take precautions. Your safety is paramount as dealing with steam means there's a danger of scalding. The wood is under great tension while being bent so you have to guard against clamps, benches and people slipping and your wood springing open. You'll need gloves to protect you from the steam and hot wood, some strong clamps, a sash cramp and some rope to secure the completed bend.



needs to be added. Heat is supplied by the fire underneath. Note the funnel on the pipe that makes filling easier and a kettle also being heated by the fire, so I can add boiling water as and when needed. In a workshop with power you can substitute a wallpaper steamer for my rig but have a kettle to hand as, if the steamer runs dry, you'll want to get back up to steam ASAP.

My 'steam box' is a higher grade plastic pipe – one that won't melt when full of steam. The pipe is larger than you'll need for this project as I usually need to steam a whole course's worth of chair backs in one go. I seal each end with a simple plywood bung. You could construct a box of any size to suit you, from plywood or even Celotex. It helps if you can wrap your box in blankets or insulate it further to help retain the heat. My box



My setup for steam bending

is fixed to a stand at a slight gradient so the condensing water runs out of the end. Don't be too precise with your joints on the box as you need to let the steam escape from somewhere – ideally the steam should be 'whistling out'.

Your wood must be bathed in the steam rather than resting in the cooler condensed water so add some supports so the wood is raised to the top of the box. ▶



A plywood bung seals the steam box



Supports raise the wood to the top of the steam box



The blank is now ready for the steamer



Fig 1: A variety of formers



Here I have the second clamp ready to secure the piece of wood when I take it out of the steamer



Fig 2: Fine ash with knots

## Formers for steam bending

We bend the wood around a former that is the exact shape we want, the bend needs to be as gentle as possible, a tighter radius or sharp points during the bend are where the wood will fail. In this picture – see Fig 1 – there are three formers; the top one is for a continuous-arm Windsor, the middle – our bend – is for an arm or back and the bottom one is for a child's chair, which has the tightest bend and is most likely to fail.

Use one of the clamps to secure the former to a solid bench. During the bending process the former and bench is under a lot of pressure from the wood and you do not want the bench or former to move during the bend.

With our equipment in place we can now look at the wood selection and then bend it.

## Wood selection

To steam wood we are hijacking the ability that some, but not all, woods have to bend when they are bathed in steam. The appliance of steam super-heats the wood, softening the sap between the growth rings and allowing some movement so that the wood will 'slide' along each growth ring; this allows the wood to take on the shapes you want while retaining its strength.

There are lots of species that will bend and I suggest you source good local timber, be it ash (*Fraxinus*

*excelsior*), which I use predominantly, beech (*Betula pendula*) as used by the chair makers around High Wycombe or perhaps hickory (*Carya spp.*) or red oak (*Quercus rubra*) in America. Yew (*Taxus baccata*) is very easy to bend but hard to shape so we'll leave that for a later chair!

The ideal material is a perfectly straight log, as free from knots as possible and most importantly, quickly grown. The ideal is 5–10 growth rings per 25mm, I've had very few failures with quick grown timbers and very little success with slow grown. For a simple bend some pin knots are fine but again, speed of growth is the key. In this picture – see Fig 2 – you can see some fine, quickly grown ash but unfortunately it has some knots that will create weak points, which when bent, will fail and crumple, eventually breaking. Be as picky as you can with your wood selection!

I prefer greenwood, either freshly felled or wood that's been left in the round so it still has some moisture in it. My second choice is air-dried planks with a cell structure that still has the potential to 'take up' moisture and plasticise. I steer clear of kiln-dried wood as I feel the drying process reduces its ability to bend.

## Preparing the wood

To prepare the wood either cleave a section 25 x 25mm min length,

1.5–1.7m or cut a section out of a suitable plank using a bandsaw. Be sure to follow the grain rather than trying to produce a dead straight section. It's more important to have no grain 'running out' than a straight billet, each point where the grain 'runs out' is a potential break during the bend. I prefer to cleave the wood along the grain keeping the bark intact on the outside edge. The bark will stay on until after steaming, ensuring I have one untouched edge, which will form the outer edge of a bend.

Clean up the sides of the blank using a drawknife or spokeshave until you have an even 25mm square section all the way along. The blank should be smooth with no grain pulled out or cuts left in the blank. Any cut into the wood will create a point of weakness where again the bend will be likely to fail. Don't be tempted to leave some bulk to remove later as the effort required to bend increases as the size of the blank increases. My blank is ready for the steamer. You'll notice it's curved and that there is a slight irregularity at the closest end, I'm confident this irregularity will not be a problem as this section stays straight with most of the bending further up the billet. Finally, mark your clamping point on each side of the bow, on this bend it's going to be halfway along.

## STEAM BENDING TECHNIQUE

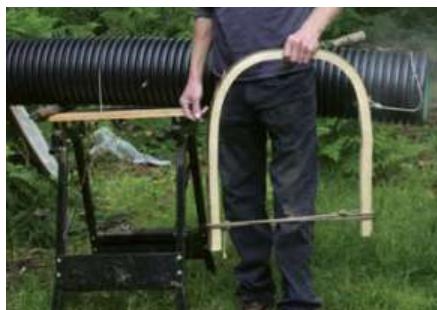
**1** Once there is steam in the steam box, put in the blank, seal the end and wait for steam to come up again. This will take a little time as the wood needs to get up to heat. Start timing once you have steam again. The rule of thumb is steam for approximately one hour for each 25mm thickness. If the wood you're using is particularly dry, you can increase the time. For my bend, I had to increase the time by an extra 15 minutes as the finished billet had dried out. However, don't leave the wood in indefinitely as after a few hours the wood loses its ability to bend and has more of a tendency to break. While you are bending you are faced with a dilemma; you must work quickly but if you work too quickly the wood will snap, too slowly and the wood will cool too much to bend.



**2** Remove the steamed timber carefully wearing a good pair of gloves as hopefully there'll be a real head of steam so make sure you don't scald yourself and if you wear glasses watch out for them fogging up! Clamp the timber on the centre point that you've marked previously, as this will give you maximum leverage on both sides. Be aware you now have about 90 seconds to complete the bend!



**3** Slowly bend one side around, you should be able to 'feel' it bending. Do not make any jerky movements.



**4** Now reach over and slowly bend the second side, it will be starting to cool so will take a little extra effort and you'll need to be a little slower in your movements. Here is where a friend's help is very welcome either bending the second side or holding the wood in place.



off although if you're in a hurry, take it off the former and leave it in the sun to dry.

**5** If it's proving hard to bend the final few degrees, put a sash cramp over the end of the wood and wind it in until it's at the desired finish point but be careful as the sash cramp will be resting on sappy/slippery wood and has the potential to slip causing the wood to spring open.

**7** Your finished bow should look something like this.

**6** Once completed, tie the bend with some rope and it's now safe to leave to dry. It's best if you can leave the bend on its former for a few days while it dries and sets, it'll feel loose on the jig when it's ready to be taken

**8** And here it is as part of a chair. I hope you have as much success with your steambending. ■

Here's a short clip of me bending some sweet chestnut (*Castanea sativa*) for a structure to be built at Hampton Court. I had to do over 70 bends in a couple of days! <https://www.youtube.com/watch?v=3pa6jzOZ1u4>

### Peter Wood

Peter has been a skilled green wood craftsperson making Windsor chairs and other creations for over 25 years. He demonstrates these skills around the country, gives lectures and runs hands-on workshops for all ages. He set up Greenwood Days in the National Forest as a centre to teach a range of traditional and contemporary crafts. He is also the current world champion pole lathe turner! [Web: www.greenwooddays.co.uk](http://www.greenwooddays.co.uk)



# DENDROCHRONOLOGY: timber as a timepiece and so much more

Dr Nicola Davies explains the science of  
analysing tree-ring data

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

The centre of a polished slice of a petrified tree from the late Triassic period – approximately 230 million years ago – found in Arizona. The remains of insects can be detected in an enlarged image

The term dendrochronology refers to the practice of determining a tree's age from its rings. The science of dendrochronology hinges on the growth rings that trees produce annually during their growth seasons. The width of a tree ring is dependent on a number of factors, including the available moisture from precipitation and variations in temperature endured by the flora. This scientific field of study concerns itself with the interpretation and dating of historic, scientific, cultural and climatic occurrences and trends. Dendrochronology demonstrates the inherent utility and flexibility of trees and timber.

Dr Henri Grissino-Mayer, Professor of Geography at the University of Tennessee-Knoxville, says: "Like any other science, dendrochronology has overarching principles. Many of these principles are borrowed from other sciences. For instance, the principle of uniformitarianism states that the present is the key to the past so with this principle we can reconstruct climate, for example, with tree-ring data."

### Birds of a feather flock together, so do oak and elm ... apparently

The similarity between the growth rings of trees in the same general location, as well as those facing the same climatic conditions, allows dendrochronologists to analyse tree-rings and construct extensive chronologies going back thousands of years. One particular chronology of central Europe goes back some 10,000 years. The Central European study analysed oak (*Quercus robur*) trees almost exclusively and was completed by the Hohenheim Laboratory.

There is much more to dendrochronology than counting rings in trees. "We don't just count tree rings!" states Grissino-Mayer, "Statistical orientation is necessary. My training as a biogeographer, biologist and a statistician come together. We ensure that the tree rings we analyse are precisely dated to the exact date without any plus or minus to the year. This is the principle of crossdating. We will not use tree-ring data unless we are 99.99% confident that the tree rings are precisely dated."

The amateur falls victim to the false premise that he can identify

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS



A dendrochronological drill bit designed to make core samples for accurate laboratory analysis. Frequently used to date timbers in ancient wooden structures such as timbered houses, barns and ships

when a particular ring was formed. Tree-ring growth may not always be annual. Therefore, the field of dendrochronology dictates that a particular tree-ring be assigned a specific calendar year. For this to be successfully carried out a number of principles must be satisfied.

The first fundamental principle is that the growth rings of the tree species must be well-defined, i.e. there must be sufficient contrast between the wood formed early in the growth season and the wood formed in the latter part of the growth season. This usually accounts for the lighter and darker rings. Second, the rings must have concentric uniformity toward the centre or the pith. Third, there must be variations in the annual rings – the principle of sensitivity. In other words, the tree should be able to demonstrate its sensitivity, or response to environmental variables, by the presence of a range of ring widths. Since dendrochronology is dependent on tree-ring patterns, a tree with the same ring widths throughout would provide no distinct pattern that could be used in crossdating or matching with that of another tree.

### It's alive!

Despite the difficulty in absorbing and employing the rigid methodology of dendrochronology, dead trees give up their secrets without much resistance – timber obtained from archaeological finds, victims of large construction projects, tree stumps and fallen logs. The more intrepid among you may have turned your thoughts to vivisection – how are tree rings obtained from living trees? There's a tool for that – the increment borer.

The increment borer allows scientists to remove a narrow cylindrical sample



The Editor's own crude attempt to date a mature pine tree which he has chopped up for firewood! It appears to be about 70 years old but an expert could date it more accurately as each apparent annual ring needs to be interpreted properly

PHOTOGRAPH BY GMC/ANTHONY BAILEY

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

### Andrew Ellicott Douglass



The modern development of dendrochronology as a science can be credited to the astronomer Andrew Ellicott Douglass, who founded the University of Arizona Tree-ring Research Laboratory in 1937. This laboratory has worldwide recognition as a foremost authority on dendrochronological techniques and their application in the fields of environmental and social science.



An accelerator mass spectrometer at Lawrence Livermore National Laboratory used for carbon dating. Dendrochronological samples can be used as reference markers to help improve the accuracy of carbon dating

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

of a tree trunk. The tool is composed of a hollow metallic cylinder, measuring about 4–5mm, though sometimes even up to 160mm. The cylinder's tip is threaded to form an auger or cutting tip. A detachable metal handle is attached perpendicularly to the cylinder to facilitate the torque needed to drill into the tree trunk.

After extruding the wood, the tree-ring containing sample is taken to a laboratory for analysis. The sample has to be sanded smooth to more accurately reveal the tree rings. ▶



**Main image:** A massive split yew tree (*Taxus baccata*) growing in the churchyard of St Mary's, Buxted, East Sussex. It's almost impossible to accurately date a tree in this condition without a central trunk intact

**Inset and above:** A campaign was mounted to determine and agree the age of this massive yew, which by expert common consent is indeed more than 2000 years old

These rings are then measured using a microscope and the data stored in a computer. The data is then compared with other chronologies from recognised chronology datasets, using computer software that matches ring patterns of the sample to a master pattern.

### Dendrochronology in the UK

Many assumed that dendrochronology would have been hampered in Britain because of the complex climate experienced there. Science, however, has silenced the doubters and Grissino-Mayer confirms: "The UK is at the forefront of dendrochronology. Tree-ring dating is used in its historic and prehistoric structures and musical instruments. These data can be used to reconstruct climate and date historic structures. The UK has had some of the top dendrochronology programmes for a long time now."

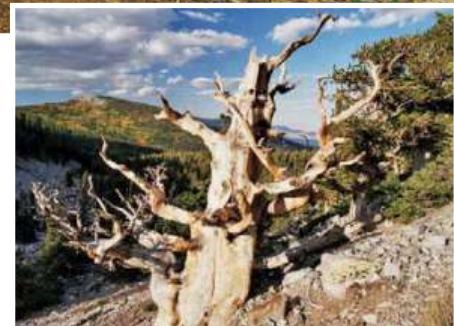
For accurate dendrochronological analyses to be carried out, an existing master tree-ring pattern has to be available for a particular geographical region and for the specific tree species. This places limitations on how far into the past tree-ring dating

can be applied. Currently, accurate dendrochronological studies are only facilitated because of tree species like the bristlecone pine (*Pinus aristata*) and oak, whose ages span centuries and sometimes millennia, providing a somewhat continuous pattern against which other trees may be matched.

In the UK, oak is one of the most documented species because of its widespread use in building timber-framed structures in the past. However, oak wasn't the only species used in construction; elm (*Ulmus procera*) and Western red cedar (*Thuja plicata*) were also utilised. If the only master chronology available for a region is for the oak species, its use in the crossdating and analysis of other species will certainly be unreliable.

### The limits of time

Despite proving itself an accurate dating method, dendrochronology does have some limitations. One of the foremost limitations is that, in some parts of the world, the tree species that are available don't demonstrate clear-cut seasonal patterns. Grissino-Mayer explains, "Tree-ring dating doesn't work so well in the tropics. In these



Whereas tree ring dating in the UK is most commonly done with oak timbers, in the US the rather raggedy looking bristlecone pine is the dendrochronologist's tree of choice

areas, trees don't shut down growth to form an annual ring and without that we cannot count the tree rings."

Additionally, where there is an availability of suitable tree species, the wood needs to be adequately preserved so that the tree-rings will be easily identifiable; each specimen should have a minimum of 30 rings. In some cases, trees that are cut at a young age don't have enough rings to facilitate accurate cross-matching.

Another requirement and potential hindrance to the application of dendrochronology in historical studies is that there has to be a fairly extensive use of timber within the time period and geographical region under consideration. Tree-ring analysis of the timber used in construction is a major way in which time stamps can be identified and applied.

Other limitations are linked to the



**Above left:** A portrait of Mary Queen of Scots, determined to date from the 16th century by dendrochronology by an unknown artist. Previously it was thought to be an 18th-century copy



**Above right:** Little Moreton Hall, Cheshire is mid 16th century, like the portrait to the left. Dendrochronology can be used in buildings like this to determine whether much older timbers have been incorporated in the structure

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS



St Brothen's Church, Llanfrothen, Wales is a Grade 1 listed structure which has had various changes made to it. Tree ring dating has determined that the trees used to make the rood screen dated between 1496-1506

inherent structure of a tree developing from sapwood to heartwood. It is well-known that sapwood – the outer lighter-coloured section of a tree trunk – is much softer than the inner and darker-coloured heartwood. As such, sapwood is more prone to decay precipitated by moisture and insects. This may result in the absence, or removal, of sapwood from timber surfaces used in the construction of timber structures. The removal of the sapwood along with the outer tree-ring often makes it impossible to pinpoint the particular year that tree was felled.

Despite the anomalies and



On a lighter note – Baumkuchen is a traditional German layer cake made from flour, eggs, butter, sugar and vanilla. The name translates as 'tree cake' on account of the rings in the cake – yummy!

limitations, it is safe to say that dendrochronology has allowed us to leverage trees and timber into powerful timepieces. It is true that the field of tree-dating has its fair share of critics. However, there is extensive and well-documented research spanning decades to support the principles involved in dendrochronology. The enthusiast can access dendrochronology archives and databases for themselves. For example, the Vernacular Architecture Group maintains a dendrochronological database of tree-ring dates for more than 3,000 buildings in the UK.

## Dendrochronology websites

National Centers for Environmental Information (NOAA)  
[www.ncdc.noaa.gov/data-access/paleoclimatology-data/datasets/treering](http://www.ncdc.noaa.gov/data-access/paleoclimatology-data/datasets/treering)

Nottingham Tree Ring Laboratory  
[www.tree-ringdating.co.uk](http://www.tree-ringdating.co.uk)

Oxford Tree Ring Laboratory  
[www.dendrochronology.net](http://www.dendrochronology.net)

University of Arizona Laboratory of Tree Ring Research  
[lttr.arizona.edu](http://lttr.arizona.edu)

Vernacular Architecture Group  
[www.vag.org.uk](http://www.vag.org.uk)

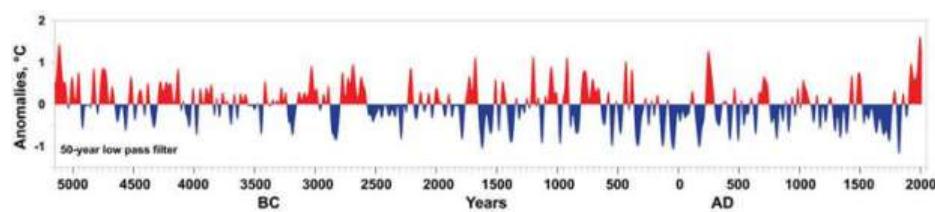
## Taking up dendrochronology

Grissino-Mayer provides the following tips to aspiring dendrochronologists, "You have to be a tree person! You need to take biology courses and study botany. Maths is also important for this field as you will be working with very specific software. Hence, it is a combination of maths and sciences. You need to read a lot on your own. Visiting a tree-ring laboratory can be beneficial. For example, you could interact with foresters, biogeographers, dendroecologists and dendroclimatologists who regularly use tree-ring data."

As a woodworking enthusiast, you can start your first project in this field by attempting to date a tree or even the timber used in your home. If you don't have access to the wooden slabs or cross-sections that you need, you might have to obtain an increment borer. This tool will also come in handy when coring live trees. Be sure to seal the hole you create to protect the tree from disease. All the information you need is readily available, and the results of your investigation might surprise you.

### Dr Nicola Davies

Dr Nicola Davies is a psychologist and freelance writer with hundreds of articles published in 10 countries. Her research skills make her amenable to a variety of subjects, all with a human interest angle. You can follow her on Twitter (@healthpsychuk) or sign up to her free blog: <http://healthpsychologyconsultancy.wordpress.com/>



This chart underlines some of the difficulties of dating timber from tree rings due to the sometimes extreme changes in temperature that can affect each ring

CHART COURTESY OF WIKIPEDIA COMMONS

# Real Bosch!

Up to  
**£500**  
cash back

## BONUS **BANG** **BONANZA**

Simply download  
the **FREE** Bosch  
Toolbox App

Get up to £500 cash back on selected Bosch Professional Power Tools.  
Follow these simple steps and start collecting your cash!

1

Download the  
**FREE** Bosch Toolbox  
App via Google Play  
Store or iTunes  
App Store



2

Create a  
simple profile



3

When prompted by  
the App, **take a photo**  
**of your receipt** and  
email it via the App



4

Bosch will  
**transfer the cash**  
**back directly** to  
your account!



Offer only available via the App, terms & conditions apply – see these on-line at [www.bosch-professional.co.uk/bonusbangbonanza](http://www.bosch-professional.co.uk/bonusbangbonanza)

# Cash back offers on Bosch Professional Power Tools.

## Available October – December 2015

<b>BAG+6 DS Professional 18 Volt Cordless Kit</b> RRP £902.40 inc. VAT Part No: 0615990G8K		£50 cash back*
<b>Professional combi and impact driver / wrench</b> GSB 18 VE-2-LI combi + GDX 18 V-EC driver / wrench RRP £471.60 inc. VAT Part No: 0615990GM5		£40 cash back*
<b>GBH 36 VF-LI Plus Professional rotary hammer</b> RRP £507.60 inc. VAT Part No: 061190705		£40 cash back*
<b>GBH 18 V-EC Professional rotary hammer</b> RRP £454.80 inc. VAT Part No: 0611904076		£30 cash back*
<b>Wireless Charging kit</b> GSB 18 V-LI combi + GDR 18 V-LI impact driver with Wireless Charging System RRP £399.60 inc. VAT Part No: 0615990HOP		£30 cash back*
<b>GCM 8 SJL Professional mitre-saw</b> With 0601B12300 GTA 2600 leg-stand RRP £464.40 inc. VAT Part No: 0601B19160 / 70		£30 cash back*
<b>GBH 4-32 DFR Professional rotary hammer</b> RRP £492.00 inc. VAT Part No: 0611332161 / 71		£30 cash back*
<b>GOP 10.8 V-LI Professional cordless multi-cutter</b> RRP £226.80 inc. VAT Part No: 060185807F		£20 cash back*
<b>GSB 18 V-LI Professional combi</b> With Wireless Charging System RRP £226.80 inc. VAT Part No: 060186717M		£20 cash back*
<b>Wireless twin pack</b> GSB 18 V-LI combi + GDR 18-LI impact driver with Wireless Charging System RRP £322.80 inc. VAT Part No: 0615990GS3		£20 cash back*
<b>GOP 18 V-EC Professional multi-cutter</b> RRP £350.40 inc. VAT Part No: 0615990FW1		£20 cash back*
<b>GST 150 BCE Professional jigsaw.</b> RRP £174.00 inc. VAT Part No: 0601513060 / 70		£15 cash back*
<b>GKS 190 Professional circular saw</b> RRP £151.20 inc. VAT Part No: 0601623060 / 70		£15 cash back*
<b>GOP 250 CE Professional multi-cutter &amp; 8 accessories</b> RRP £151.20 inc. VAT Part No: 0601230060 / 70		£15 cash back*
<b>GHO 26-82 Professional planer</b> RRP £151.20 inc. VAT Part No: 0601594341 / 2		£15 cash back*
<b>Professional combi and impact driver</b> GSB 10.8-2-LI combi + GDR 10.8-LI impact driver RRP £206.40 inc. VAT Part No: 06019B697F		£15 cash back*
<b>GSR 1800-LI Professional drill / driver</b> RRP £127.20 inc. VAT Part No: 06019A8373		£15 cash back*
<b>GSB 18-2-LI Plus Professional</b> RRP £159.60 inc. VAT Part No: 06019E7170		£15 cash back*
<b>GBH 2-26 DRE Professional rotary hammer</b> RRP £151.20 inc. VAT Part No: 0611253741 / 2		£15 cash back*

**Bosch Professional Power Tools** are available from reputable dealers throughout the UK. See website for more details on the products included in this offer and the entire power tools and accessories range.

[www.bosch-professional.co.uk](http://www.bosch-professional.co.uk)

 **BOSCH**  
Invented for life

# PLANS 4 YOU

## Dressing table

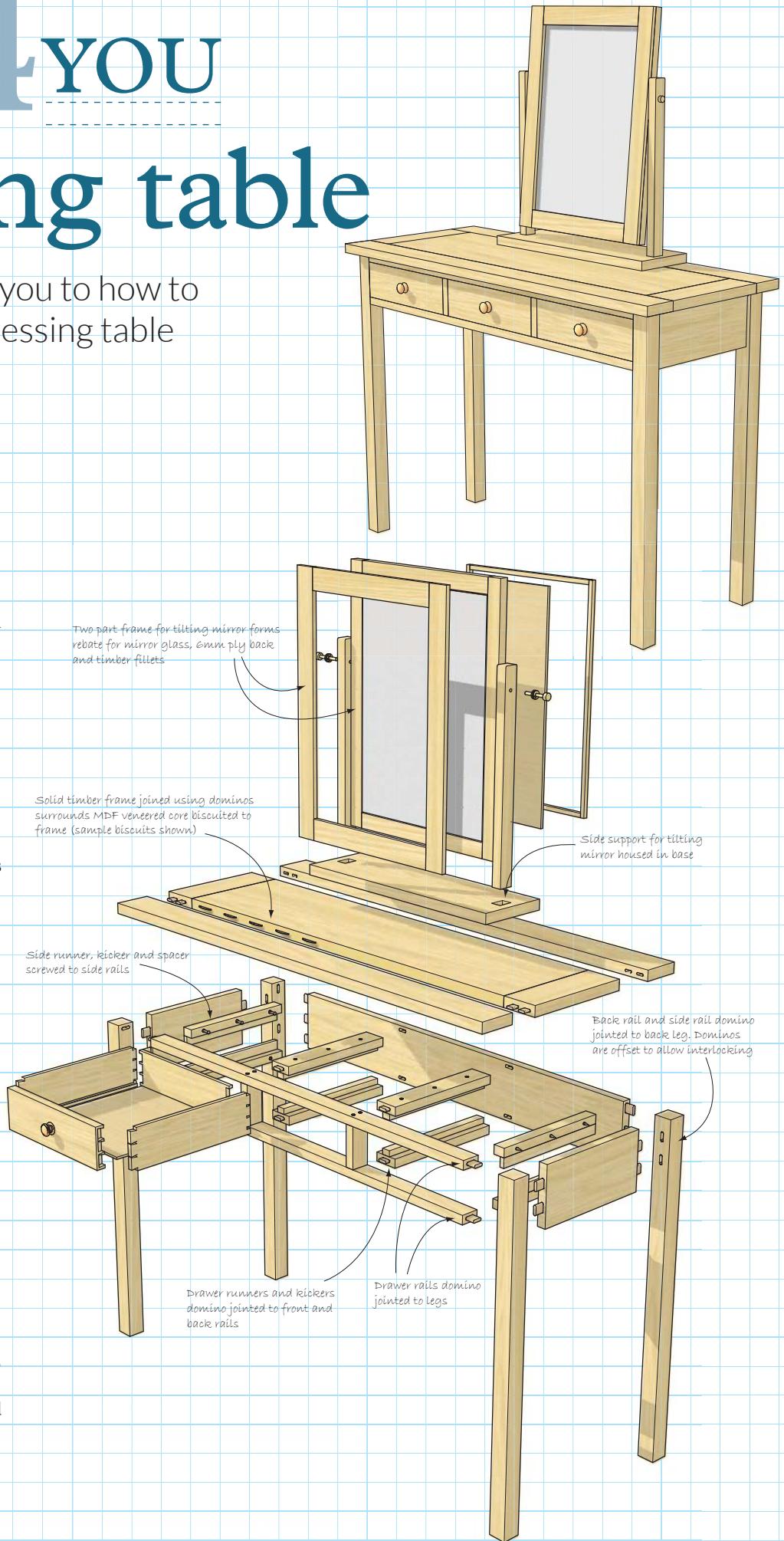
Simon Rodway shows you how to make your very own dressing table

**D**ressing tables have always seemed like the kind of thing you have once you've sorted everything else; a bit of a luxury item I suppose, although I'm sure once you have one they are completely indispensable! I have followed a bit of a trend with this one and designed it so that the mirror, which is often incorporated into the structure, merely sits on the top and I suppose that does allow for a bit of flexibility in terms of eventual use.

The table and mirror are both built of oak (*Quercus robur*), which will need to be cut accurately to use the Domino and biscuit jointing I've used here. You could, of course, employ traditional jointing, lap dovetails on the top drawer rail, mortise and tenons elsewhere, but a domino jointer will save you huge amounts of time. Although there are no unusual shapes, there are lots of component parts and it's easy to lose track of which bit goes where – I've done it more than once – so organisation is key, sizing and cutting in batches wherever possible. The front and back legs, for example, not only have a different layout of mortises for the Dominos, but are handed and need the Dominos to interlock, the pair on the side rails going in between the trio on the back.

I usually like to put ends of frames together first, but this type of table requires a front and back assembly, and is then joined with the side rails, drawer runners and kickers. One problem with Dominos is that they are such a snug fit, that dry fitting becomes a real issue, so one way around this is to sand the sides of a few Dominos and mark them as 'dry fit' – but don't use them for the final glue up.

The drawers are a traditional mix of half blind dovetails at the front and



## CUTTING LIST

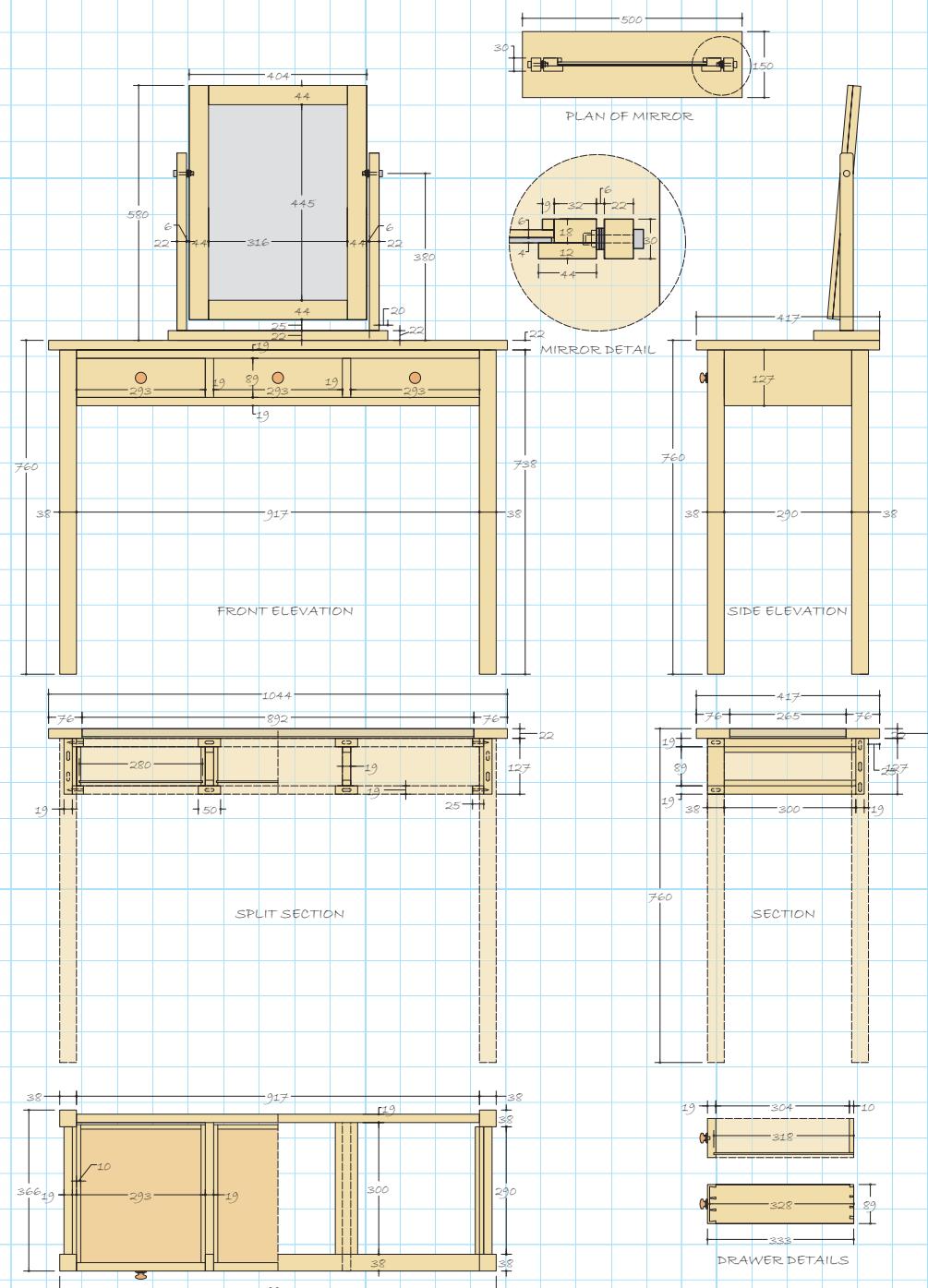
Top frame	2 @ 1,044 x 76 x 22
Top frame	2 @ 417 x 76 x 22
Sheet core	1 @ 892 x 265 x 18
Legs	4 @ 738 x 38 x 38
Side rails	2 @ 290 x 127 x 19
Back rail	1 @ 917 x 127 x 19
Drawer rails	2 @ 917 x 38 x 19
Dividers	2 @ 89 x 38 x 19
Kickers/runners	4 @ 300 x 51 x 19
Guides	4 @ 300 x 19 x 13
Drawer fronts	3 @ 293 x 89 x 19
Drawer sides	6 @ 328 x 89 x 10
Drawer backs	3 @ 293 x 78 x 10
Drawer bottoms	3 @ 318 x 280 x 4
Mirror front frame	2 @ 533 x 44 x 12
Mirror front frame	2 @ 316 x 44 x 12
Mirror back frame	2 @ 533 x 32 x 18
Mirror front frame	2 @ 340 x 32 x 18
Plywood back	2 @ 371 x 340 x 6
Mirror supports	2 @ 426 x 30 x 22
Mirror stand base	1 @ 500 x 150 x 22

Spacers on either side of outer drawers are not included and neither is the beading to capture the plywood back to the mirror. Cut both to fit.

through dovetails at the back, with sides and front grooved for the 4mm ply bottom. Once you have made the drawers, fit the dividers, spacers at each end and the top and bottom guides. As these are all screwed into position, you have a bit of leeway in terms of getting the drawers to run smoothly. Add a drawer stop for each drawer on the top face of the bottom drawer rail.

The top is constructed using a solid oak outer frame Domino jointed, with a sheet – MDF – veneered core, biscued along its outer edge to the frame. If you have trouble matching the veneer to the solid timber, make a feature of the contrast. As the main part of the top is MDF and dimensionally stable, you can screw straight through the kickers into the underside to fix the top to the sub-frame.

The mirror is formed using a built up frame using smaller sections glued together to form a virtual rebate, but you may want to change this, and go for a solid section actually rebated instead. Use dowels to join the butt joints at the corners. The 4mm mirror glass is held in place by a ply backing piece which is secured by glazing



beads pinned into the frame. Allow a 2-3mm gap all round the glass so that it can move relative to the timber. A few beads of silicone will stop it rattling around in the frame.

The mirror frame is supported by a pair of uprights housed into a solid oak base, and can be tilted around the side bolts fitted through the uprights and into the frame. A small round over on the top front and back corners of the uprights improves the overall look, and you could add small pads on the corners of the base to prevent any scratching of the top. ■

## Simon Rodway

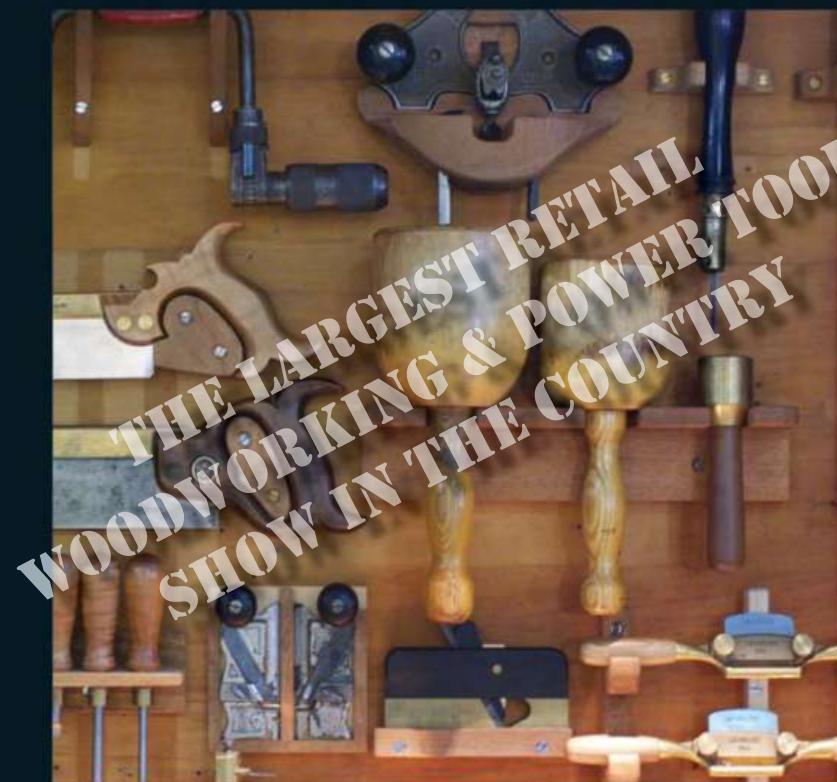
Simon Rodway also runs LineMine, a website with articles and online courses on drawing software. A new course, 'SketchUp for Woodworkers', is proving really popular. For details and to get discount coupons, see website details below.

Email: sjr@linemine.com

Web: www.linemine.com/courses



# The North of England Woodworking & Power Tool Show



THE LARGEST RETAIL  
WOODWORKING & POWER TOOL  
SHOW IN THE COUNTRY

Gt Yorkshire Showground  
Harrogate (HG2 8QZ)

20 November 2015 10am - 5pm  
21 November 2015 10am - 5pm  
22 November 2015 10am - 4pm

SK Promotions

[www.skpromotions.co.uk](http://www.skpromotions.co.uk) • T: 01474 536535

Make life easy and pre-book your tickets.

Telephone 01749 813899 or write to SK Promotions,  
The Old Sun, Crete Hall Road, Northfleet Kent, DA11 9AA

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Post Code: \_\_\_\_\_

No of adult tickets £10.00 @ £8.50

No of concession tickets £9.00 @ £7.50

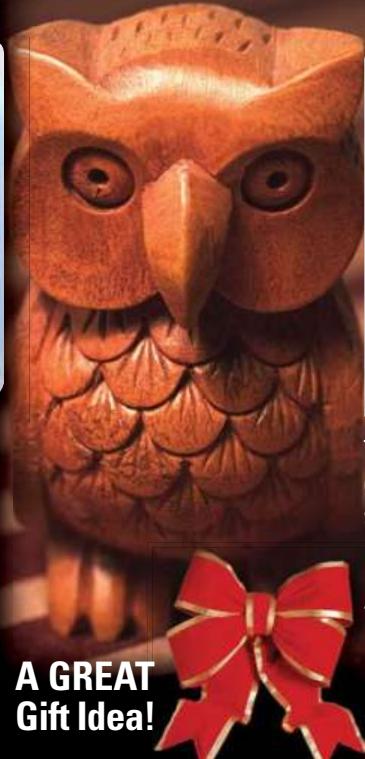
Cheque / P.O. to SK Promotions £ \_\_\_\_\_

PLEASE ENCLOSE A STAMPED ADDRESSED ENVELOPE.  
For show details either visit [www.skpromotions.co.uk](http://www.skpromotions.co.uk)  
or phone 01474 536535.

Should you not wish to receive further information  
on our woodworking shows please tick



## Learn To Carve Like A Pro



Flexcut's Beginner Craft Carver Sets have everything you need to get started – carving tools, wood, step-by-step instructions and a how-to DVD. Our 2-blade set features an attractive leaf pattern, while our 3-blade set has a fun cowboy boot project. Each project takes less than two hours to complete. The carving tools in each set are professional grade and made in the USA. The blades are factory-sharpened and ready to use right out of the pack. Interchangeable handles let you change blades easily and quickly.

This Beginner Palm & Knife Set is great for projects such as walking sticks, tableware and small figurines. The set includes our popular Cutting Knife, Detail Knife and top two Palm Tools.

A GREAT  
Gift Idea!



**BriMarc**  
TOOLS MACHINERY

Find out about Flexcut carving tools [www.brimarc.com/flexcut](http://www.brimarc.com/flexcut)  
Find prices or your nearest stockist [www.brimarc.com/stockists](http://www.brimarc.com/stockists)  
or call 0333 240 69 67

**Flexcut**  
CARVING TOOLS



Contact: BriMarc  
Tel: 0333 240 6967  
Web: [www.brimarc.com](http://www.brimarc.com)

### The MICROMOT mill drill

The MICROMOT 230/E is a truly all-round tool, designed for drilling, milling, grinding, polishing, brushing, cutting and engraving. It offers easy handling and is without equal in its class. The MICROMOT mill drill has a balanced, low noise, special DC motor with long life expectancy. The tool has a ground, ball-bearing spindle and comes with high quality MICROMOT steel collets. There is no rattling or vibrating of bits and cutters. The spindle for tool exchange can be locked at the push of a button and there is a 20mm collar for use in MICROMOT drill stands and horizontal stands. Price valid until 31 December, 2015.

# KIT & TOOLS

Take a look at the tools, gadgets and gizmos that we think you will enjoy using in your workshop

### Axminster Trade Series dust extractor

This wall mounted dust extractor is perfectly suited to small workshops, woodturners or for connecting to a stand-alone machine. Its 1hp motor generates 1,000m<sup>3</sup>/hr of airflow and is fitted with a 1 micron rated cartridge filter making it capable of handling chippings, coarse and medium fine dusts. Larger bags can be fitted, but the user will need to support it underneath on the floor. The filter has a crank handle operating a paddle to keep the interior clean, which should be used periodically to maintain filter efficiency.



This quiet extractor could be a handy solution for small workshops; it is important to make sure the wall is capable of supporting the extractor's weight. Price valid until 31 December, 2015.

Contact: Axminster Tools & Machinery  
Tel: 03332 406 406  
Web: [www.axminster.co.uk](http://www.axminster.co.uk)



### Edgebanders from Le-Matic

### Two new edgebanders from Le-Matic

are now available: the BR500 and BR300. These portable edgebanders will be used for applying veneers to straight or curved panel edges in PVC, ABS, laminated and solid woods. Both have many patented features not found on other portable edgebanders.

The edgebanders are advanced yet simple to use. A digital temperature control system allows a huge range of specialist glues to be used for many applications. Price valid 31 December, 2015.

Contact: Axminster Tools & Machinery  
Tel: 03332 406 406  
Web: [www.axminster.co.uk](http://www.axminster.co.uk)

### Wet and dry Class L auto-start vacuum extractor

A powerful semi-professional wet and dry Class L auto-start vacuum extractor with power take off for hobbyist, DIY and light trade use. The extractor includes a powerful but quiet 1,400 watt silenced motor, a power tool take off with auto-start feature of up to 2,200 watts and 5 second run-on delay, an extra long 7 metre power cable and a floor cleaning kit, power tool adapter, crevice tool, upholstery tool and no foam filter, a container outlet plug for ease of emptying liquids. It is ideal for workshop, garage and light trade applications.

Contact: Trend  
Tel: 01923 249911  
Web: [www.trend-uk.com](http://www.trend-uk.com)



ARBORTECH™

# TURBO RANGE

[www.arbortech.com.au](http://www.arbortech.com.au)



RAPID SCULPTING, PLANNING  
AND TRIMMING



SAFE, EASY TO USE

BEST  
SELLER



SMOOTH FINISH, DEEP  
INTERNAL PROFILES,  
PRECISION MACHINING



\*SUITABLE FOR USE WITH THE ARBORTECH MINI GRINDER



BEST  
SELLER



FREEHAND FINE SCULPTING AND  
BORING TOOL

PERFECT WHEN USED WITH  
GUIDES AND TEMPLATES

PLANNING ACTION AT THE TIP  
OF SHAFT



NEW  
PRODUCT!  
AVAILABLE  
NOW!

# OAK writing bureau

**Louise Biggs** restores this beautiful oak bureau

**M**y client has fond memories of using this small oak (*Quercus robur*) bureau when he was a child visiting his grandfather and, having kept the piece for many years, he now wished to restore the bureau for his own grandson. The bureau had been kept in a garage and had suffered a little over the years with damp conditions and general wear and tear.

## Assessment

- The writing fall had a split running through where the hinge was fitted along with several other splits.
- A small section had split off from the moulded edge on the hinge side.
- The butt hinges were rusty and broken.
- The bearers that should support the writing fall needed adjusting.
- The small bracket feet that were on the front of the legs were loose.
- The back, replaced with thin plywood, had been attacked by insects.
- The dark finish was badly worn and watermarked on the flap, top and legs.

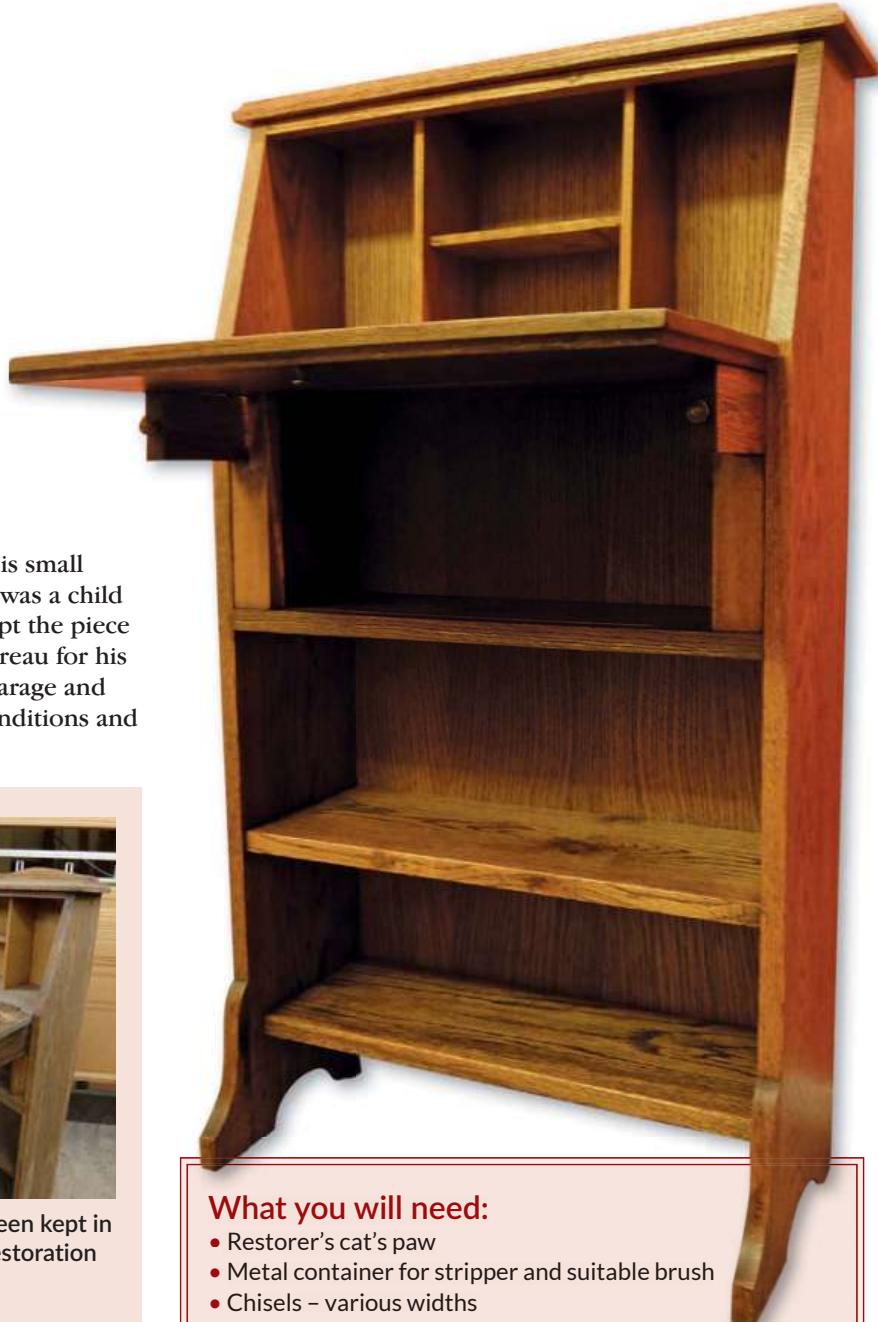


The bureau had been kept in a garage before restoration

My client requested that the bureau be stripped and refinished to its natural colour with a durable finish and the hinges be changed for ones where the knuckles did not face upwards to catch fingers or paper. As the bureau was not of great monetary value he was content that a piece of veneered board was used for the new back.



The writing fall had a split by the hinge



## What you will need:

- Restorer's cat's paw
- Metal container for stripper and suitable brush
- Chisels – various widths
- Mallet
- Glue pot with animal/hide glue
- Suitable plate for forming dowels or similar
- Drill and drill bit
- Flush cut saw
- 'G' and/or 'F' clamps
- Dovetail saw
- Block and jack plane
- Bandsaw
- Screwdriver
- Hammer and pins
- Grade 3 and 0000 wire wool
- Abrasives for wood and brass
- PPE – face and breathing protection and heavy duty gloves

## Supplies

Antiquing fluid from Restoration Materials:  
[www.restoration-materials.co.uk](http://www.restoration-materials.co.uk)

Jade Oil from Liberon stockists:  
[www.liberon.co.uk](http://www.liberon.co.uk)



## STAGES OF RESTORATION

**1** The back panel, writing fall and small upstand were removed, then the whole of the bureau was stripped using a chemical stripper. Face and hand protection are essential when working with these chemicals. Each section was coated and the stripper was left to work before I removed the resulting debris using coarse grade 3 wire wool. Each surface was coated several times to get as clean a finish as possible and then neutralised using methylated spirits.



**2** The split on the writing fall was prised open and the old wax, dirt and any residual stripper was cleaned out. I used animal/hide glue, which will be used throughout the restoration, to glue the piece and it was held in place using masking tape.



**3** The other split along the same edge was treated in the same way. I cleaned out the fine splits in the writing fall using a flush cut saw and then glued a shiver of veneer in the resulting cut.

**4** Once dry, I used a chisel to cut the veneers flush and clean up. The split across the hinge area was strengthened by inserting two small dowels. I drilled through the split at an

angle which counters the direction of the edge breaking away.

**5** The dowels needed to be made from old oak so I prepared two 100mm long pieces to 5mm square. I used a chisel to shape one end of each piece to the required size, which matches the hole in the dowel making plate.

**6** Using a weighty hammer to support the plate, I firmly held the dowels to prevent them snapping under the hammer blows. Being careful as to what I hit, I hammered the pieces through the hole to produce a dowel to the size required. They were cut slightly longer than required and glued into the holes. They were then cut flush when dry.

**7** I cut a 'V' shape joint with a chisel to eliminate the ragged edges around the missing piece on the moulded side of the hinge edge. I then cut a piece of old oak to fit using a dovetail saw, making small adjustments as necessary to the replacement piece of timber to obtain a tight fit.

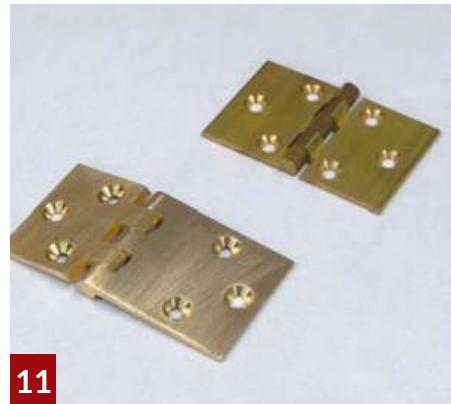
**8** The piece was glued into place and once dry, I used a carving chisel and abrasives to match the shape.



9



10



11



12



13



14

**9** There was only a small amount of movement in the joints between the two bracket feet and the front edges of the sides. With a multitude of old nails through them, to try and remove the feet would lead to extensive damage. The joint was cleaned out, then I pushed some glue into it using a thin metal spatula. The spatula was warmed up to keep the glue in a liquid state for longer.

**10** The feet were clamped to keep the brackets flush with the sides and to pull the joints together, then it was left until the glue had set.

**11** Traditionally back-flap hinges – knuckle down – were used under a leather insert that spanned the fall and carcass. Traditional bureau hinges – knuckle up – were used when the leather insert was only on the fall, both allowed the fall to close at the correct angle. Modern back-flaps are made with the knuckles up, so table hinges are now the only ones available to gain the correct angle for the fall when using new hinges. This photo shows a table hinge on the left and a modern back-flap hinge on the right, note the position of the knuckles and the angles on the plates beside the knuckles. The problem with using a table hinge will be the resulting gap between the fall and the carcass,

created by the position of the hinge in order for the writing flap to be closed.

**12** The screw holes for the original hinges were plugged with timber before cutting in the new hinges. The longer plates of the hinges on the writing fall were positioned to cover as much as possible of the area marked by the original hinges, then I used a dovetail saw to cut the outer lines.

**13** The waste area was chipped away with a chisel. Having the bevel facing down enabled the chisel to cut in just enough without going too deep.

**14** The remaining waste was pared out to create a tight fit for the plate of the hinge.

**15** I aligned the fall with the carcass, marked the hinge plate positions and cut out as before. Initially I used one screw to fix each hinge. I closed the fall to check everything aligned properly and made any minor adjustments. Once the hinge positions were correct, I used steel screws to cut into the holes and replaced them with brass screws after refinishing.



15



16



17



18



19



20



21

**16** The bearers had two problems that caused them to tilt downwards and prevented them from supporting the fall. The first problem was the position of the stops; set right at the back there was no timber behind the stops to counter what was in front of them. Governed by the depth of the bureau this cannot be changed. The second problem was the difference in timber thickness used in the carcass. The section at the front was thinner creating a gap between the bearers and the carcass when fully extended.

**17** Wedges of old oak were shaped to fit above the bearers to make up the difference in thickness on the carcass. They had to be tight enough to act as a kicker for the bearers but not so tight as to stop the bearers smoothly travelling in and out.

**18** I initially cut the wedges on the bandsaw, then adjusted their thickness using a block plane and held them temporarily in place with double-sided tape. The fall was lowered after each adjustment until the necessary support was achieved, then the wedges were glued in place. All the surfaces were sanded with 180 and 240 grit to remove any residue left from the stripping process and to prepare the bureau for refinishing.

**19** The hinges were refinished using a fine abrasive paper and degreased. Although there are recipes for antiquing brass to different shades

of brown, most are unpleasant to work with, even if you can still obtain the relevant chemicals. Using a brush, I coated the new hinges and screws with antiquing fluid then left it to work until the desired colour was reached. It was then neutralised under cold running water and left to dry.

**20** '0000' wire wool was used on the hinges and screws to give a more natural, aged look by gently rubbing the areas that would naturally wear and as such be brighter. The hinges and screws could then be coated with Jade Oil, which acts as a drier to displace any moisture left on the surfaces and then a protective film.

**21** The new back was made from oak-veneered MDF. The edges were chamfered using a jack plane before veneering them. This makes the back panel a little less obvious given that it is just planted on the back and not fitted into a rebate. I tried out the water stain on some test pieces to obtain the best colour match between the back panels and the carcass.

**22** The bureau was finished with three coats of Danish Oil. The oil was applied, left for 15 to 20 minutes and then any excess was removed with a cloth. Each coat was left for 24 hours to dry and I de-nibbed between the coats. The bearers, upstand and writing fall were all refitted and then the bureau was ready to go home. ■



22

## Louise Biggs

Having completed her City and Guilds, Louise trained for a further four years at the London College of Furniture. She joined a London firm working for the top antique dealers and interior designers in London, before starting her own business designing and making bespoke furniture and restoring furniture.



Web: [www.anthemion-furniture.co.uk](http://www.anthemion-furniture.co.uk)



## Woodworking & Furniture Making Courses

Learn to craft wood and make fine furniture on our long and short courses at purpose-built workshops in Worcestershire.



Call us on **01684 591014**

or find us online for information on all the courses

[www.peterseftonfurnitureschool.com](http://www.peterseftonfurnitureschool.com)

The Threshing Barn, Welland Road, Upton upon Severn, Worcestershire, WR8 0SH



**Short Courses Include**  
 French Polishing & Refinishing  
 Wood Machining  
 Dovetailing & Drawer Fitting  
 Veneering & Laminating  
 Routing  
 Sharpening  
 'Make a Box'  
 'Make a Table'  
 Beginners Course

**Veneering & Laminating**  
 4 day course



### SPRAY-WAX

High quality oil-wax finish - especially developed for professional users!

- > Extremely tough and hardwearing
- > Very water and dirt resistant
- > Suitable for children's toys (EN 71.3)
- > Microporous, breathable finish, which does not crack, peel, flake or blister



Call or visit website for stockists.



+44 (0)1296 481 220

[www.osmouk.com](http://www.osmouk.com)

## A woodworker's best friend



### POCK-IT HOLE CLAMP™

- Eliminates the need for large bar clamps
- Clamps & surface-aligns pocket-hole joints easily
- Works with 3/8" pocket-holes on 3/4" thick face frames & casework
- 3" wide stock capacity
- Die-cast aluminium construction



Find your nearest stockist  
**benchdog.eu**

## Precision. Innovation. Simplicity.



**Rip-Cut™**  
**KMA2675**

**Kreg**

**No Measuring.  
No Marking.  
No Chalk Lines.**

Attaches to almost any Circular Saw for precise, no-nonsense ripping through large plywood and MDF panels up to 61mm (24") wide.



Find your nearest stockist  
**kregtool.eu**





# WOOD STORAGE SHED

## Part 1

**Neil Lawton** makes a wood storage shed for the back garden

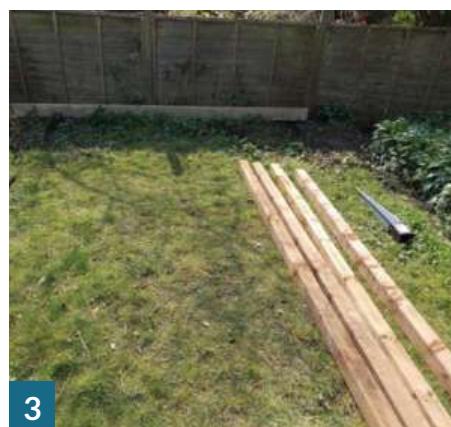
Like many people these days, we have a log burning stove. Ours was fitted about four years ago and at that time, I built a shed to store the fuel. We are lucky enough to have a few contacts to obtain free wood, mainly through my partner's work as a professional gardener. The wood, of course, is green and requires seasoning before it can be used and the original shed was built with this in mind.

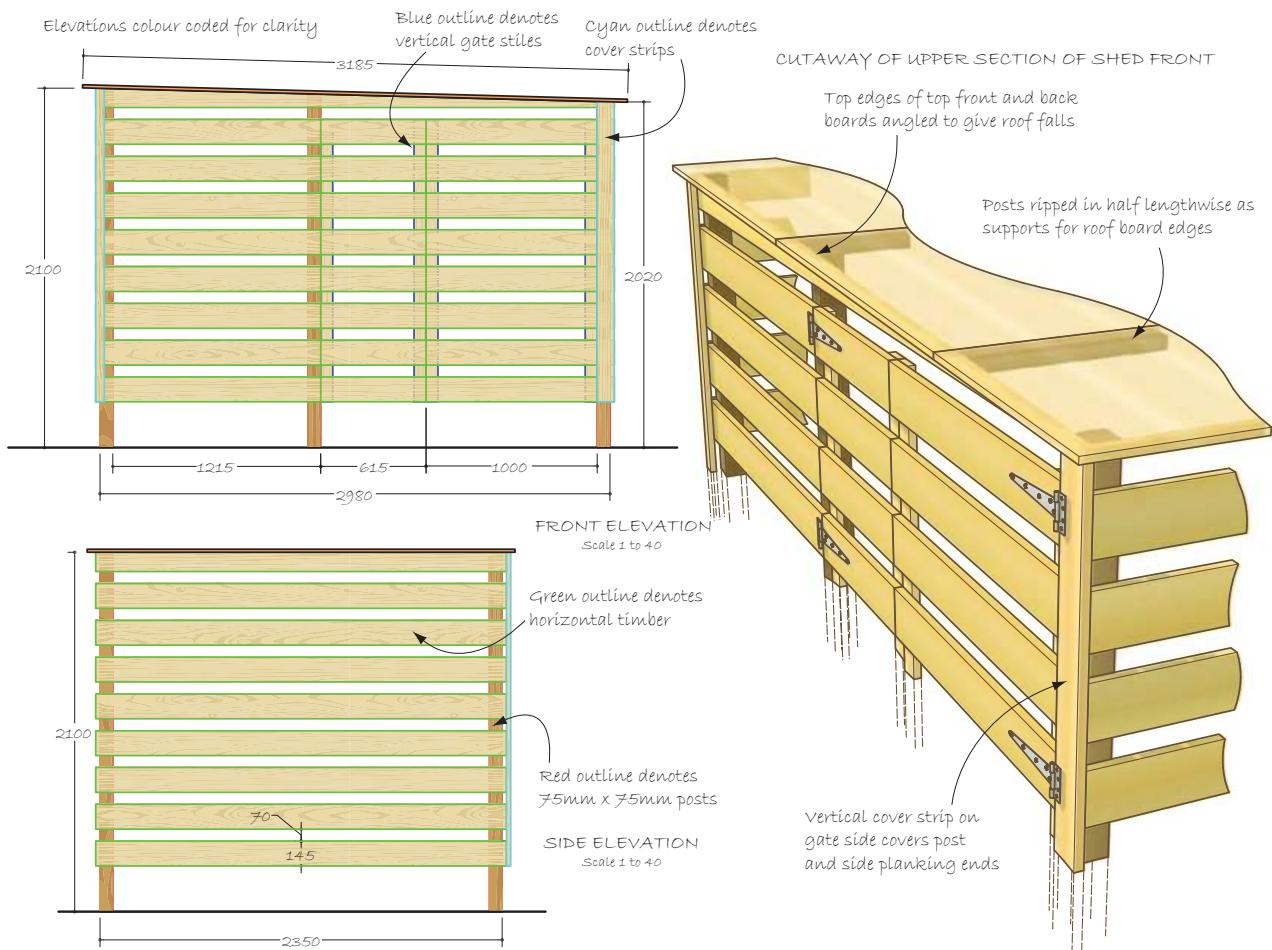
Some of the wood we get is far too good to burn and from a turner's point of view, it would be a crime to do so. The design of the original shed has proved very successful at seasoning timber, so I decided to replicate it. One shed for burning timber and another for turning timber!

**1** The original shed was in a more shaded spot, so it was left open fronted. When full, it contains a winter's worth of fuel.

**2** The new shed site – an old trellis arch was removed and plants cut back. A small lilac (*Syringa vulgaris*) tree had to be dug out at the back.

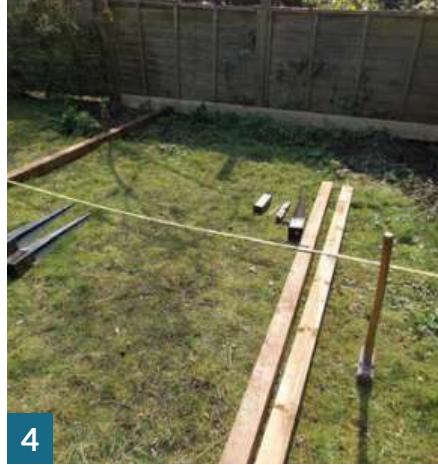
**3** The uprights consist of 75mm fence posts, to be hammered in to metposts. Create a rough layout to help you to visualise the size.





### What you will need:

- Tape measure
- Spirit level
- Sledge hammer
- Drill/driver
- Jigsaw
- Hand saw
- Hammer
- 108M 22 x 150mm treated carcassing
- 6 x fence posts - 75 x 75mm x 2.4m
- 6 x Metposts - 75mm x 600mm
- 3 x OSB board - 2,440 x 1,220 x 18mm
- 1 x mineral roofing felt - 10m x 1m
- 6 x T hinges
- Screws and tacks



4



5



6



7

**4** Lay out a plank and two posts to determine the post positions. The frame must be smaller in area than the roofing boards, to ensure an overhang.

**5** It is advisable to buy a dedicated drive tool to suit the posts. It makes the installation easier and avoids any damage to the post socket.

**6** Hammer in the back two posts, then adjust for level.

**7** Then, cut a plank to length and temporarily screw it to the top of the two back posts. ►

**8** Next, mark the bottoms of the posts for the positioning of the first plank.

**9** With the first plank cut to length and fixed, there is now no need to measure. Cut two blocks of wood to the required gap size and move up with the planks as they are screwed into position. Leave the planks at their full length and simply saw back to the post after they are installed.

**10** Once up to the required height, mark the plank at the top of the posts at an angle, then remove from the frame.

**11** Use a jigsaw to cut the plank along its length. The two angled pieces should create a 'fall' for the roof.

**12** With everything trimmed, manoeuvre the back into position and knock it into the metposts alternately, until the posts are fully seated.

**13** The first front post can now be positioned.

**14** Should the ground around your site rise up at this point – like mine does – put the post a long way in to level up with the back.

**15** Temporarily fix the front roof plank to the front post and attach the first plank.

**16** As before, use spacers to determine the positioning and cut back the planks to the post.

**17** Then, repeat the process for the other side and front.

## Storing wood

Having built a store, you need to make sure you keep the right sort of timber in it. Stacking correctly is important. Make sure you not only stack timber neatly, but also ensure there is ventilation between the boards and blocks of wood, so it all gets a chance to air dry properly. Once the wood has a long enough period to dry, you will need to complete the drying ready to work it. Often the best way is to cut components oversize and bring them into the house and stored 'in stick' – under the bed is good!



8



9



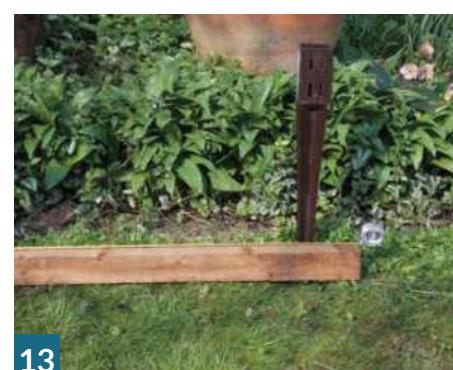
10



11



12



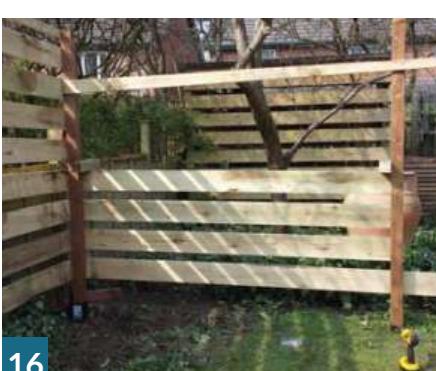
13



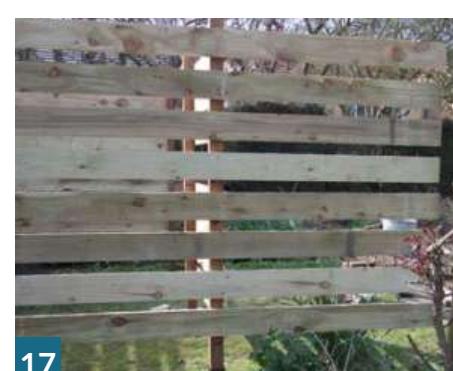
14



15



16



17

**18** Here, you can see the planks all trimmed back and the roof planks put in place.



**19** The back is a long span and needs tying together. Rather than installing another post, use an offcut to support a plank screwed to each piece.



**20** Cut a post in half lengthways to support the edges of the roofing boards. My roof did require more support to stop any sag towards the middle, but it had to wait – torrential rain was forecast and the thought of soggy orientated strand board was not appealing.



**21** The roofing felt can be quickly cut. You may need additional help to lay the felt roofing down.



**22** The gate width is determined by the length of the available offcuts. Some rips were added to the corners of my shed to tidy up the edges.



**23** Use a pile of offcuts to help hold the larger gate in the correct position while fitting the hinges.



**24** Next, screw a piece of hardwood to the smaller gate at the top and bottom. These simply lock the gates together when closed.



**25** Now, back to the roof. Use offcuts to make supports for a plank edge.



**26** This runs the length of the shed and stops the roof boards sagging in the middle.



**27** Now, with stage one finished, it's just a path, a floor and storage shelving to go! ■



### Neil Lawton



Neil is a woodworker/turner who specialises in the use of reclaimed and recycled materials in his projects and seasons native timbers for his turning work. He works from his home workshop in York, North Yorkshire and works part time in the Design Technology department of the local school.

**Web:** [workerinwood.co.uk](http://workerinwood.co.uk)

# WoodRat® THE ORIGINAL



and still the best way  
to joint wood

Uncluttered yet accurate,  
quick to set and simple to use.

**see it in action... [woodrat.com](http://woodrat.com)**

Tables, chairs, stools, kitchens, bedrooms,  
desks, bookcases, sideboards, beds, benches,  
doors, windows, steps, cabinets,  
**make them all and more with  
Dowelmax doweling jig**

No need for biscuit jointers, tenoners,  
morticers, screws, loose tenons etc,  
**make joints faster,  
more accurately and stronger with  
Dowelmax**

The ultimate doweling jig for woodworkers



See us on YouTube and visit  
**[www.dowelmax.co.uk](http://www.dowelmax.co.uk)**  
for more info, video and ordering.





# P1CC Precision Jigsaw

Quality • Innovation • Performance

Beyond all expectation

**P1CC Precision Jigsaw Package  
c/w Tilting Base & 800mm Guide Rail**

**£412.50 Ex VAT**  
**£495.00 Inc VAT**

P1CC Precision Jigsaw (Saw only)

**£365.83 Ex VAT**  
**£439.00 Inc VAT**



The P1cc jig saw re-writes the rule book when it comes to jigsaws. With its powerful 900w motor the P1cc has an impressive 114mm depth of cut and a patented built in extraction system that keeps the work piece clean at all times. Although the P1cc can take standard bayonet type sawblades, Mafell have developed the unique CUnex W1 blade that even allows the tightest curves to be cut with 90° precision guaranteed! With optional tilting base plate angled cuts can be performed with ease & both base plates can be used in conjunction with Mafell guide track systems.

**Call NMA or visit our website to find your nearest Mafell stockist**



**N M A T O O L S . C O . U K**  
Email: [info@nmauk.com](mailto:info@nmauk.com) Tel: 01484 400488

Birds Royd Lane  
Brighouse  
West Yorkshire  
HD6 1LQ



# Routed oak fanlight frame

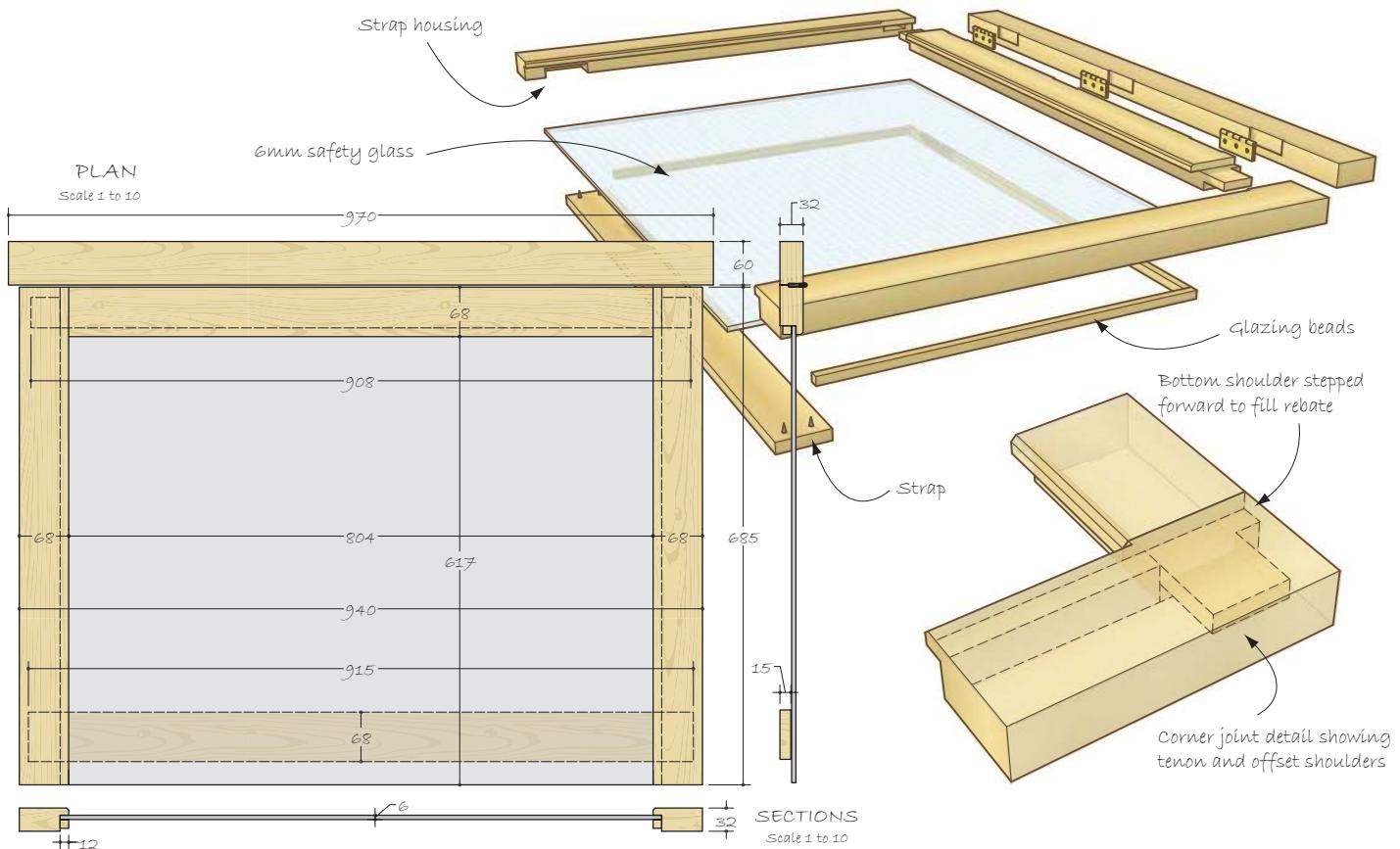
In a well framed article, simply dripping with useful advice **the Editor** just proves he can't break through that 'glass ceiling'

Our living room is actually situated below ground – handy as a nuclear bunker should 'the bomb' go off... However, there is one fanlight window which I made in softwood many years ago and which is now rotting through. Time for a proper solution, ah – uPVC I thought, but no, the glass works told me it wasn't practical to make one up. That is like 'a red rag to a cabinetmaker' – never tell me no! I had already made a uPVC boxing to fit around the brick base I once built, now what I needed was a wooden frame solution that would sit on top.

**1** If you have never 'worked' uPVC before, it is remarkably easy. I found some on eBay and cut it to size on the tablesaw, with the blade set well down and then siliconed and screwed two layers back to back with twinfast screws.

**2** This stuff actually planed up beautifully so I had nice neat square edges. The boxing would be fixed to the brick surround on three sides with screws and masonry plugs and any overhang carefully trimmed off.





**3** The frame is an inverted U-shape because there cannot be frame at the bottom edge where the water runs off. Here a strap of oak (*Quercus robur*) is fitted underneath instead to maintain the frame integrity. The first job was to machine the glazing rebate with a big Wealden tenoning cutter.

**4** Next the two top corner joints were marked out very carefully. I didn't want to mess this up so I checked and rechecked what I was about to machine up. The frame needed to sit on the uPVC boxing with a slight overhang at each side and more so at the front.

**5** The two sides would have blind mortises and recesses for the oak strap at the bottom end. Both sides were clamped together in the vice so the router could ride along the top. Two fences kept the router on track and a 12.7mm straight cutter was used for 'ramp' cutting (plunging while moving the router along).

**6** The strap recesses were cut one side at a time, then the router was moved across to make the other recess. ▶



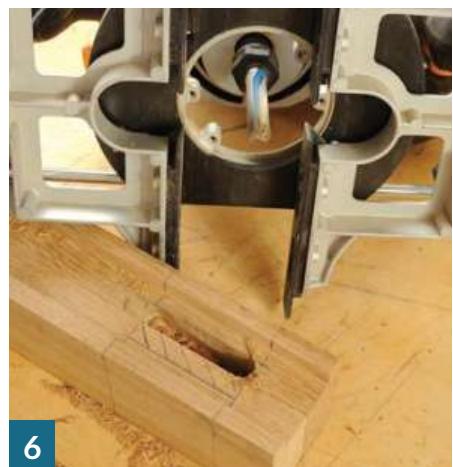
3



4



5



6

**7** The result was two recesses that would need the ends squaring up. So far, so good. The ends of the frame were already cut to length.

**8** To square them nicely I used a small router and a 6.4mm straight cutter and a router T-square. The corners would need a slight nicking out with a chisel to complete the joint.

**9** A completed strap recess which needed to be the correct depth allowing for the glazing which would sit directly on top of it.

**10** The same machining procedure was used to create the mortises at the top of the frame. Because they were near the top edge of the frame I left extra length for the router to run on. I swapped to a 9.5mm Trend pocket cutter designed for deep mortising. The cutting edge is only at the end, allowing free cutting in the mortise.

**11** The next job was to make two tenons on the top rail. See the drawings to understand the detail of the frame joints. In order for the tenons to fit tightly I bandsawed on a line that would make a curly shaving that told me I was at the correct width.

**12** The tenons needed slight correction to fit nicely so I used a small shoulder rebate plane to clean up both the faces and shoulders of the tenons.

**13** The result was two stepped mortises and tenon joints both left and right handed. The datum distance when setting out was the lower shoulder of each tenon as this would need to be watertight being on the upper face in situ.

**14** I used Titebond III waterproof aliphatic resin, which should form a good long term weather resistant bond. Any surplus needed to be cleaned off promptly so the oak surface would be clean and ready to accept a finish.

## Top tip

- The fanlight needed to be secure so I chose brass sprung sash catches with loop handles to undo them. However the catch bars had the ends bevelled. So a bit of crude re-engineering by drilling out the pivots and turning the bars over so the bars would latch properly and I used small diameter bolts and nuts to act as pivots which did the trick.



7



8



9



10



11



12



13



14

**15** The whole frame was glued and clamped together with the lower strap dry fitted and clamped in place. Then the frame was measured corner to corner to check it was square and then the frame was left on a level surface to dry so it would stay flat.

**16** The front edge would benefit from a bevel profile for appearance's sake so I used a router trimmer with a Trend 45 degree bevel cutter to run around and create a pleasing amount of bevel profile.

**17** I had a piece of 6mm obscured wired glass cut to fit the glazing recess. I needed to check the fit and that the strap would lie properly over it and the whole underside needed to sit level on the uPVC boxing.

**18** The next job without the glass in place was to make the hinge recesses in both the frame and the wall bar that it would hinge off. I chose brass hinges to limit the corrosion risk as the fanlight would not be subjected to much opening.

**19** Because the hinges were 100mm long I made up a router sub base to prevent the router slipping into the hinge recesses. A cutout in the centre meant I could see where the pencil lines were that I needed to machine up to.

**20** All the oak components were given two coats of tough all-weather Tonkinois varnish and the frame and bar were hinged together. Note the brown E-seal running along in the deliberate hinge gapping.

**21** The frame rebate was sanded to roughen the varnish and a line of clear long life glaziers silicone (not the standard stuff) was run around the rebate and the strap screwed into place without glue in case the glass ever needs to be replaced.

**22** The last job before installation was predrilling the oak strip to hold the glass in place and using copper nails to pin it in place. To avoid breaking the glass the punch used to drive the pins was sitting on a thin strip of wood. Now some waiting for a break in the weather and then I could screw the bar to the bay window wall before reattaching the frame, fitting some catches and the job was done at last! ■



Lisa's pair of brown oak chairs



Plywood prototype chair

# Insight Chair making

Peter Sefton shows us how his students tackle that most complex of all furniture skills – chair making

Furniture making is an all-encompassing craft that covers a wide range of skills, traditionally set out in different disciplines or trades, namely; cabinetmaking, carving, gilding, veneering, chair making and upholstery. All of these disciplines require their own skills, but one of the most challenging is chair making.

Dealing with all the compound angles and rakes, both in the seat and

back joined by curved and shaped rails, give the furniture maker a few headaches. Two of this year's students at my School made chairs as part of their course, both chairs required prototypes to resolve the constructional issues, but most importantly to ensure the chair was both comfortable, strong and attractive.

## Lisa's chair

Lisa made a pair of chairs using the same main framework, but with different treatments of the back support and seat coverings. Brown oak (*Quercus robur*) and sycamore (*Acer pseudoplatanus*) were the two timbers used. The seat was laminated plywood and then upholstered. The back legs were compound curves cut in both directions from 75mm thick oak, to give real movement and a large splay on the back frame. The front legs replicated the lower section of the rear legs. The back splats were a large laminated section of book matched ripple sycamore jointed with stainless steel dowels. The accurate drilling and positioning of the dowels was difficult, but gave a great effect. Traditional mortice and tenon joints were used as the main construction, some of which were through-wedged used for both strength and visual interest.



The laminated ripple sycamore backs gives good support

Right: The finished prototype chair stained and sprayed



PHOTOGRAPHS BY PETER SEFTON

## Kevan's chair

Kevan's finished chairs were made from constructional walnut (*Juglans nigra*) veneer to complement his dining table. A series of laminated jigs were produced for the legs and the backrest. The one pictured was a birch (*Betula pendula*) plywood prototype, which was a quick way to produce the mock-up chair to check the overall size and aesthetics. This is a common practice as is using MDF if its strength allows. ■

## Peter Sefton

Peter Sefton is a well-known furniture maker who runs courses in fine woodworking, teaching and mentoring students at the Peter Sefton Furniture School. He also owns Wood Workers Workshop and he is a Liveryman of the Worshipful Company of Furniture Makers. **Web:** [www.peterseftonfurnitureschool.com](http://www.peterseftonfurnitureschool.com)



# Quality Tools to match our Service

**JET**  
Lie-Nielsen TOOLWORKS

**Mouldings**

Great discounts on selected Jet Machinery

Top quality hand tools

**Certified Hardwoods**

**NEW**  
Toishi-Oishi Japanese Waterstones

Drilling Tools made to the highest standard

**G&S Specialist Timber**  
TOOLS AND MACHINERY

[www.toolsandtimber.co.uk](http://www.toolsandtimber.co.uk)  
you can order online now

**Flexcut CARVING TOOLS**

**pfeil**

**WE ARE EASY TO FIND:**  
1½ miles from the M6, J40.  
Take the A66 towards Keswick,  
turn left at first roundabout,  
follow the Brown Signs to  
The Alpaca Centre.

**G&S SPECIALIST TIMBER**

The Alpaca Centre, Snuff Mill Lane, Stainton, Penrith, Cumbria CA11 0ES.  
Tel: 01768 891445. Fax: 01768 891443. email: info@toolsandtimber.co.uk

Open 8am to 5pm daily.  
10am to 5pm Saturday.  
Closed Sunday.

## HOW TO MAKE THIS WINDSOR SIDE CHAIR

by Peter E Judge

£15.00 plus p&p.



How to make this Windsor side chair



**ONLY  
£15.00**  
plus £7 p&p for  
UK delivery

The book is packed full of useful diagrams and colour photos on how to make this Windsor side chair from start to finish. Every part is explained in easy language, and in a step by step format, throughout its 420 pages. In the woodturning chapters, the beautifully shaped legs, stretchers and upper chair spindles can be created easily using the step by step guide for beginners.

### Critique of the book from Mr R A of Florida

"Without doubt, it is the most detailed and comprehensive Windsor chair construction book on the market today. Finding detailed instructions on this subject has been difficult. I have collected every book and article I could find. Your book beats them all; no contest."

[www.makingwindsorchairs.co.uk](http://www.makingwindsorchairs.co.uk)

Order through PayPal on the website,  
or please contact Peter by calling 0121 705 2196 or  
email: [peterjudge@gmail.com](mailto:peterjudge@gmail.com) or write to Peter E Judge,  
21 Somerby Drive, Solihull, West Midlands B91 3YY

Delivery to Europe £15.00 plus £14.00 p&p • America £15.00 plus £22.50 p&p  
Australia £15.00 plus £24.50 p&p • Canada £15.00 plus £22.50 p&p

## GO AHEAD, GLUE ALL

### POWERFUL BONDING SOLUTION

#### ELMER'S GLUE-ALL®

Elmer's Glue-All is the perfect choice for all kinds of repairs. Versatile, easy to clean up and non-toxic, Glue-All delivers a solid bond every time.



Find your nearest stockist  
**elmersglue.eu**

Available on the  
App Store



# Woodland ways

Mistletoe in a bepopulated landscape

PHOTOGRAPH: WIKIPEDIA COMMONS



## Matchwood, mistletoe and fireproof flooring

**Gary Marshall** looks at matchwood, mistletoes and fireproof flooring in this month's Woodland ways

**P**oplars (*Populus spp.*) are closely related to willows (*Salix spp.*) and similarly come in many shapes, sizes, species, sub-species and varieties. In Britain, there are just two poplar species considered to be native – see Woodland ways, issue 5 *Woodworking Crafts* – the aspen (*Populus tremula*) and the black poplar (*Populus nigra*).

### Other poplars

However, other poplars often dominate the landscape. You'll have seen tall lines of lombardy poplars (*Populus Nigra var. 'Italica'*) – always planted – never naturalised. These trees are fastigate – ie. upward pointing, artist's brush shaped. They are often seen in rural settings as shelterbelts. They screen buildings or are seen as prominent 'living landmarks' in otherwise bland settings. Some think they are just too exotic, appearing unnatural in the British landscape. You'll also see many blocks, lines and screening/sheltering belts of hybrid black poplars (*Populus x Canadensis*) in the countryside. They are less pointed than lombardy

poplars. They're often grown in grid-like plantations of uniform trees. Some are well formed with few errant shoots and snags, like 'serotina'. Others, including the 'railway poplar' of southern England 'regenerata', are scrappy, rangy, untidy trees. Most are very fast growing and tall, with regular upward-sloping branches – sometimes almost conifer-like. Landowners planted blocks of hybrid poplars from the 1960s hoping for a quick return. They produce firewood in 10 years, pulpwood in 20 years and timber in 30+ years. Many were planted on wet soils for matchwood, up to the 1970s. Most hybrid poplar wood is not that durable – but it is light. It's alarming how many plantations have been left to collapse under their own weight or have blown apart in turbulent years – particularly, during and since the Great Storm of 1987. Rare bird-spotters also take note: golden orioles (*Oriolus oriolus*) and hoopoes (*Upupa epops*) have both been seen in English poplar plantations.

### Balsam poplar

On warm days in spring, sniff out



Lombardy poplars in an English landscape



Hybrid poplars as a shelter belt

balsam poplars (*Populus candicans* or *Populus trichocarpa*). These trees – also known as Balm of Gilead – have largish, shiny, scented emerging leaves, giving off a heady, pervading and spicy fragrance. Research is also being carried out to assess the medicinal properties of 'propolis', a substance made from certain poplar buds.

### Aspens, grey and white poplars

Aspens, grey and white poplars (*Populus tremula*, *Populus canescens*)

and *Populus alba*) all have leaves that rustle and catch the light in the slightest breeze. Grey and white poplars are tall, fast growing trees but the aspen tends to be somewhat smaller, colonising corners of – often ancient – woodland and ‘pioneering’ neglected land. These beautiful trees sucker like mad – and can be a pain in lawns and playing fields.

### Black poplar

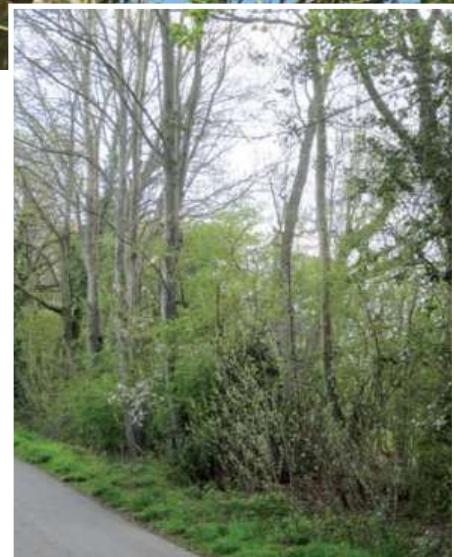
The true native black poplar is a rare and endangered species in many parts of Britain. It was selected for its timber. Uses included some cruck framed housing, flooring near fireplaces and in oast houses – because of its fire-resistant qualities. It’s also shock absorbent, light in weight and colour. Other uses included rifle butts, wagon bottoms, brake blocks, stable partitions, clogs, furniture and fruit boxes. Numbers have dwindled and it’s overlooked for timber, and often considered a nuisance because of its messy, downy catkins. Many male and female trees became isolated from each other, so natural regeneration by seed could not occur. Regeneration mainly relied on a few cuttings from male trees, taken by man. In recent decades conservationists have recognised its importance and new truly native clones have been planted in suitably wet or riverside sites. Beware though, never plant poplars anywhere near your property – all poplars’ roots can run causing structural problems.

Travelling homewards along the straight, poplar lined roads of France some years ago, we entered Normandy. Abundant orchards there are full of mistletoe (*Viscum album*) and so are lines of poplars – and many limes (*Tilia vulgaris*) too. They’re a real landscape feature. This got me thinking. Why, in Britain, where we have many orchards and specific areas



Clone of truly native black poplar – on author's land

Right: Balsam poplar



Suckering white poplars

of mistletoe, have our poplars not all been colonised by this seasonally beloved parasite, as in Normandy?

### Mistletoe

Ever since, I've sought clumps of mistletoe high up in poplars. I found some but nothing like the abundance seen in France. Then, I stayed on a hop farm beside the River Teme near the Worcestershire, Herefordshire, Powys border. Here apple and fruit orchards almost sink beneath the weight of mistletoe. Many other species of tree are similarly smothered, including poplars. Are there a higher number of mistle-thrushes here to plant all those sticky seeds in the berries, I wonder?

Mistletoe, although considered a native species, just like the black poplar, is strangely parochial in its occurrence. Just over the Welsh border, in Powys, there's none! However, 10 miles up the river from where I stayed is Tenbury Wells, the ‘capital’ of the mistletoe ‘industry’. In December, on National Mistletoe Day,



Mistletoe madness



Mistletoe in hybrid poplar

a bunch of mistletoe is cut down. In a multi-faith ceremony, thought to have its roots in Druidic times, the bunch is cast into the river, without touching the ground, under the Mistletoe Queen's guidance.

Hoping you find uses for some of this mythologically seasonally important plant during your winter festive celebrations! ■

### Gary Marshall

Gary has had a life-long interest in woodlands and the countryside. He trained in countryside management and subsequently ran a company working with the local County Councils and Unitary Authority and their Countryside and Rights of Way Teams, as well as a wide range of conservation organisations.  
[www.greenwooddays.co.uk](http://www.greenwooddays.co.uk)



# hand tools and wood chisels specialist

Ashley Iles - Henry Taylor - Robert Sorby - Joseph Marples  
Veritas - Clifton - Thomas Flinn - Morris - Ice Bear...

**All items in stock, ready for dispatch..**  
\*unless marked otherwise

all prices inclusive of VAT



## COFFIN SHAPED MALLETS

Leadwood and Wild Mango  
(super weighted head)



from only  
**£29.00**

## Japanese Waterstone Sharpening Kit



for only  
**£77.50**

## Henry Taylor Adze



straight  
**£49.00**  
gouge  
**£64.00**



## Henry Taylor Chisel Set

for only  
**£120.00**



from only

**£17.50**

## TROUSER BRACES



only **£10.00** each



## scrapers



## sharpening stones and tools



## measuring and marking



## saws



## punches



## Wooden Trestles

x1 **£41.00** each  
x2 **£38.00** each  
x3-9 **£37.00** each



OVER 90  
DIFFERENT  
CARVING TOOLS



OVER 25  
DIFFERENT  
CHISELS



Order online today at  
**www.toolnut.co.uk**

or call to order on 01424 224269

Order online today at **www.toolnut.co.uk**

# Coming next month in Woodworking CRAFTS

PHOTOGRAPH BY LEE STOFFER



ISSUE 8  
ON SALE  
26 NOV

PHOTOGRAPH BY  
MICHAEL T COLLINS

PHOTOGRAPH BY MARGARET WILLIAMS

## Lee Stoffer's reindeer

- Carve a house sign by Margaret Williams
- Michael T Collins makes a cabinetmaker's mallet
- Fretsaw alphabet magnets
- Wood storage shed – part 2
- Louise Biggs makes a memory box
- Anne Marie O'Sullivan's willow work

## PLUS: Woodland Ways, Woodworking Geometry – Staircases part 2, Reader Group Test

**Editor** Anthony Bailey Email: anthonyb@thegmcgroup.com, **Deputy Editor** Briony Darnley, **Designer** Jan Morgan, **Head of Woodworking Design** Oliver Prentice, **Senior Editorial Administrator** Karen Scott, **Illustrator** Simon Rodway ([www.linemine.com](http://www.linemine.com)), **Chief Photographer** Anthony Bailey, **Group editor, woodworking** Mark Baker, **Production Manager** Jim Bulley, **Production Controllers** Rebecca Howard & Amanda Allsopp Email: repro@thegmcgroup.com, **Publisher** Jonathan Grogan, **Advertising Sales Executive** Russell Higgins Email: russellh@thegmcgroup.com, **Circulation Manager** Tony Loveridge, **Marketing** Anne Guillot, **Subscriptions** Helen Chrystie Tel: 01273 402 873 Fax: 01273 478 606 Email: helenc@thegmcgroup.com  
**Printed in the UK By** Stephens and George Print Group, **Distributed by** Seymour Distribution Ltd Tel: 020 7429 4000 **WOODWORKING CRAFTS** (ISSN 2057-3456) is published every four weeks by GMC Publications Ltd, 86 High Street, Lewes, East Sussex, BN7 1XN

Woodworking is an inherently dangerous pursuit. Readers should not attempt the procedures described herein without seeking training and information on the safe use of tools and machines, and all readers should observe current safety legislation. Views and comments expressed by individuals in the magazine do not necessarily represent those of the publishers and no legal responsibility can be accepted for the results of the use by readers of information or advice of whatever kind given in this publication, either in editorial or advertisements. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means without the prior permission of the Guild of Master Craftsmen Publications Ltd.

### SUBSCRIPTION RATES (includes postage & packing)

	UK	Europe	Rest of World
12 issues:	£51.00	£63.75	£71.40
24 issues:	£102.00	£127.50	£142.80

US customers should call the Subscription Department for subscription rates in USD (\$).

Cheques made payable to: GMC Publications Ltd.

Current subscribers will automatically receive a renewal notice (excludes direct debit subscribers). Post your order to: The Subscription Department, GMC Publications Ltd, 166 High Street, Lewes, East Sussex, BN7 1XU, UK. Tel: +44 (0)1273 488 005 Fax: +44 (0) 1273 402866 Email: [pubs@thegmcgroup.com](mailto:pubs@thegmcgroup.com) Web: [www.thegmcgroup.com](http://www.thegmcgroup.com)

# Hints, Tips & Jigs

Your chance to pass on all your crafty hints, tips and jigs to the readers and maybe even win a prize!

## SIZES DON'T MATTER

I notice in the magazine that imperial measurements creep into some projects – from the USA I think – and older colleagues of mine normally use feet and inches, unless they were engineers. I kind of hop between the two but as I'm dyslexic, measuring with woodwork can be quite a problem. What about people with partial sight as well? What I do, whenever I can, is to use objects with known lengths that I can copy, use plenty of length stops and blocks on the saw table and elsewhere, so I end up with predictable sizes. I find a combination square handy, because I can set lengths and ignore the scale, using a marking gauge more often and I've even made myself a wooden depth gauge, so there's no scale to confuse me. Do other readers have trouble interpreting numbers? That's not meant to be funny – really.

**Gary Newbold**

Using the component's depth to set the gauge



**STAR  
TIP**



PHOTOGRAPH BY PETER SEFTON

## SPONSORED BY

**RECORD POWER**  
ESTABLISHED 1909

Record Power, suppliers of high quality woodworking machinery and accessories, are pleased to be sponsoring the hints, tips and jigs section in collaboration with GMC publications. Each issue's 'Star Tip' will receive a Record Power voucher to the value of £75 and all other published tips will receive a £35 voucher. These vouchers can be redeemed at any authorised Record Power stockist. Find your nearest stockist at [www.recordpower.co.uk/dealers](http://www.recordpower.co.uk/dealers) or call Record Power on 01246 571 020.



PHOTOGRAPH BY MARK LIDDELL

Keeping glue off the surface using masking tape

## PREVENTING GLUE MARKS

It's often suggested that taping over joints stops wood finishes from getting into the joint and ruining the glue bond, but you can do the reverse thing and tape either side of any joint with masking tape so the glue oozes onto the tape, not on to the surrounding surfaces and risk spoiling it – or at least making it harder to clean up and possibly raising the grain with a damp cloth when you don't want that to happen. By the way Anthony, great magazine, keep up the good work!

**Mark Liddell**

## ALL ABOUT THE BASE

I often find I'm trying to rout areas that are too wide for a router to span without falling into the space and creating an unexpected divot. Now, I often fit a false base to my router that is wider so this can't happen. It makes the job so much easier not 'living on the edge' so to speak.

**Tina Herrey**

*(Funnily enough, I used this technique for my router fanlight project on p.52 of this issue, so here is that pic once again – Ed)*



PHOTOGRAPH BY TINA HERREY

An extended base spans awkward gaps



PHOTOGRAPH BY FRED MCNULTY

A hinge can double as a marking square

## SEEING THINGS FROM BOTH SIDES

If I'm marking components on adjoining faces of smaller pieces swapping a try square over from face-to-face to make the lines seems a bit pointless, but I've found a large hinge folded inside out so, with the head recesses outwards, actually works as a marking square. This works with an internal door hinge without any taper to the hinge flaps. A couple of spots of superglue down the knuckle line when it was set at 90° means it stays set and always handy for marking. I might try and find a large table flap hinge to make a larger version. There are purpose made squares on the market but this is a lot cheaper!

**Fred McNulty**

## DRAWING ROUND THE BEND

I am well aware of the existence of flexible rulers, I even own one! However, rather than dig it out from wherever it's currently hiding my workshop, it's often easier to improvise. And what better to use than a copy of one of my favourite magazines, on this occasion *Woodworking Crafts*. Just bend it round to follow the curve, in this case a concave piece I needed to bandsaw up for a project I was working on. The technique is quick and effective provided you compress the magazine so that your pencil tracks down the edge.

**Chris Grace**

*(Mmm – a rather obvious attempt to sway editorial opinion, so well done! – Ed)*



PHOTOGRAPH BY CHRIS GRACE

It is such a versatile magazine!

By submitting your tips, you agree that GMC Publications may publish your Work in our magazines, websites, electronic or any other mediums known now or invented in the future. In addition GMC may sell or distribute the Work, on its own, or with other related material. This material must not have been submitted for publication elsewhere

When the first Basato 5 (now Basa 5.0) bandsaw was introduced it achieved the **"Best Machine of the Year"** award in Germany. On test in the UK, Good Woodworking magazine stated **"So is the Basato 5 the ultimate bandsaw? It's not far off. This is a serious professional machine."**

With the introduction of the new Basa 4.0 there is now a professional Scheppach Basa bandsaw to suit every serious woodworker. With optional micro fence adjustment to within 1/10th mm, precision cutting is guaranteed if and when required.

Scheppach Basa Series - for the discerning woodworker who demands "Made in Germany" bandsawing excellence.



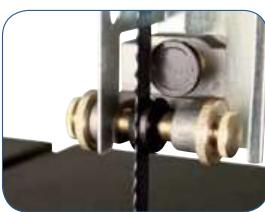
  
Deutsche  
Qualitätsprodukte  
seit 1927



Terms &  
Conditions apply



Exceptional +/- tilt adjustment



HD top & bottom triple  
precision roller guides

Model	Product Group Series	Format Cutting capacity width / height	Table Tilt Range	Horse Power 240v / 415v	Price Exc VAT Plus Carriage	Price Inc VAT Plus Carriage
Basato 4.0**	Workshop	375mm / 250mm	-17° to +45°	2.0 / NA	£690.83	£829.00
Basa 4.0	Professional	375mm / 250mm	-22.5° to +45°	2.04 / 2.04	£1,125.00	£1,350.00
Basa 5.0	Professional	457mm / 305mm	-20° to +47°	3.8 / 4.9	£1,662.50	£1,995.00
Basa 7.0	Professional	600mm / 400mm	-15° to +47°	3.8 / 5.2	£2,850.00	£3,420.00

\*\* Basato 4.0 (Go online for full details) is designed by Scheppach in Germany but made in China where Scheppach resident engineers oversee manufacturing quality control. Scheppach Basato 4.0 bandsaws has a 2 year warranty. All Scheppach bandsaws have been sold and serviced in the UK by NMA since 1972. Go to [nmatools.co.uk](http://nmatools.co.uk) and see what users say about NMA unprecedented service.

A selection of the shoehorns I have made. The piece of merbau at the bottom is shorter than the 500mm long and 42mm square one that I used. The shoehorn at the top has the most suitable shape as it curves downwards at the scooped end and at the handle



## Carve your own SHOEHORN

John Swinkels makes this shapely shoehorn from an offcut of merbau

**M**erbau (*Intsia bijuga*) is an Asian timber, which is also known as kwila in Australia. The wood is medium hard, attractive and durable. For this project I decided to use an offcut of merbau but I have made dozens of wooden shoehorns from native Australian hardwoods such as spotted gum (*Corymbia maculata*) and flooded gum (*Eucalyptus grandis*). Because of their hardness none of them are easy to shape but as they are strong and tough they are eminently suitable for shoehorns.

Shoehorns are used by people who have difficulty bending down or find it hard to get the foot into the shoe. I make them long and slender so that they are not heavy. The part that is held should fit the hand comfortably and the open-spoon-shaped bottom part should be thin so it can go between the heel and the shoe. Although I incorporated a hook in the handle of the shoehorn so it can be hung up, it

is still comfortable to hold. A hole with a cord passing through it is probably a better option as the hook could easily break off.

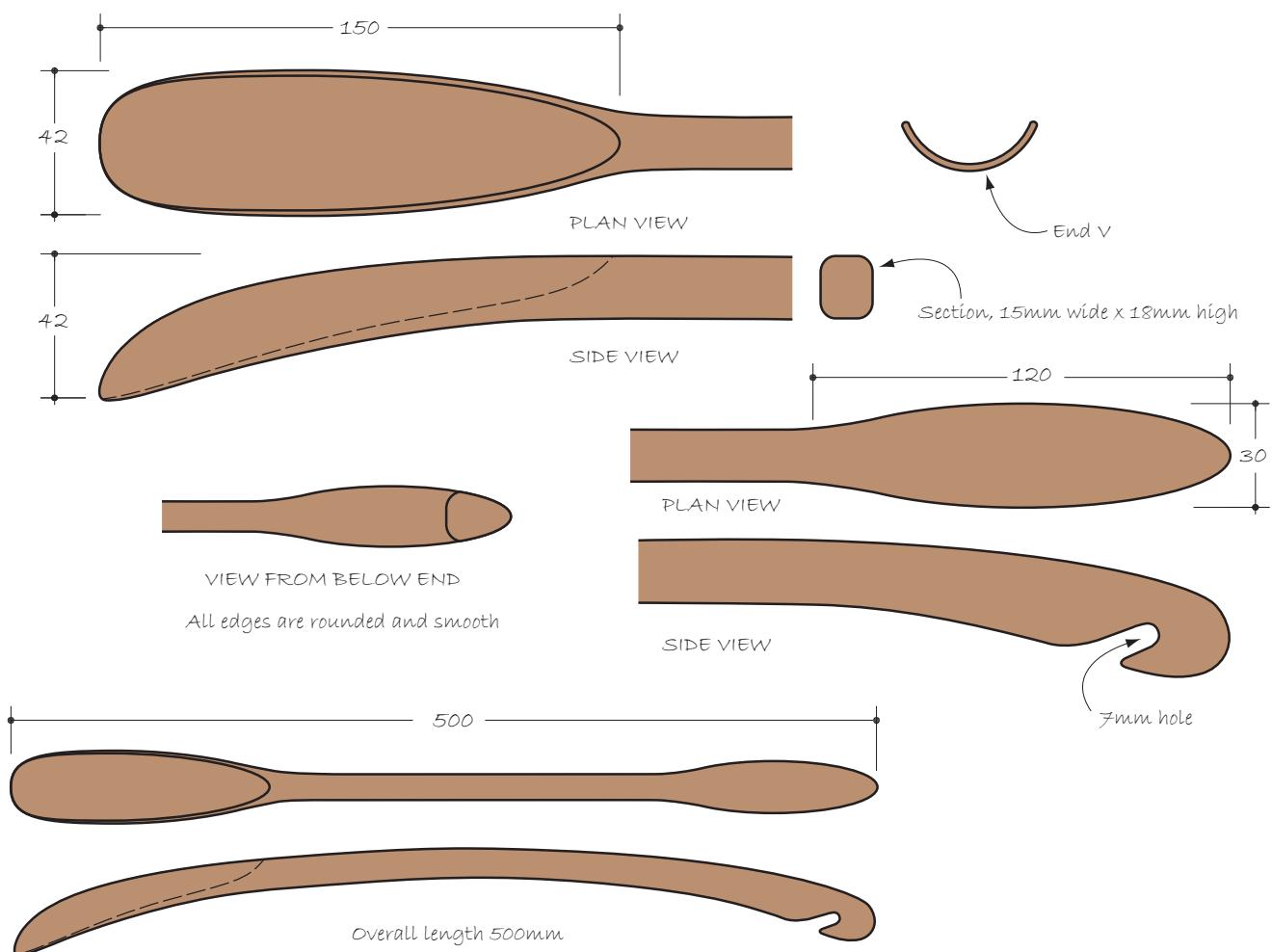
I used a number of hand tools – drawknife, rasp, files, gouge and mallet – to do much of the shaping but used a bandsaw and a wood lathe for some of the steps. A very handy implement for holding the work is the Triton Superjaws – or a copy – because I can walk around it or pick up the clamp/vice and turn it around towards light falling on the part that I am working on. It can be seen in some of the photos here.

A handcrafted object like a shoehorn does not seem to fit the category of conventional woodworking, as that nearly always involves joinery, nor woodcarving, although I do use a carving gouge to hollow the business end of the shoehorn. Neither does it fit in woodcraft, as that deals more with crafty items of an ornamental nature.

### What you will need:

- Bandsaw
- Drill press
- Lathe
- 25mm-wide shallow carving gouge
- Mallet
- Wood rasp
- Bastard file
- Second cut file
- Drawknife
- Scrapers
- A wooden cylinder with coarse and medium grade abrasive cloth wrapped around it
- Range of abrasives
- Beeswax

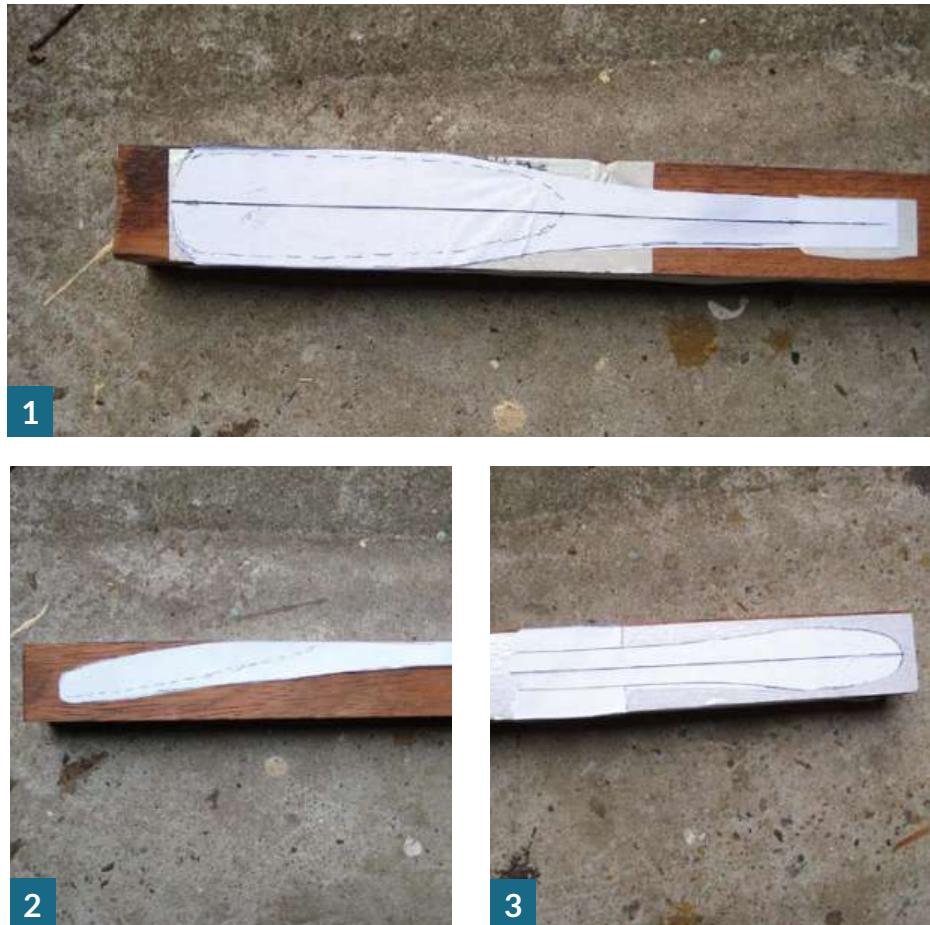
It is probably most at home in woodware, in which category you can find spoons and spatulas, spurtles and scoops, practical objects for everyday use. Their creation also involves the use of gouges and abrading tools. ➤



**1** The section of merbau that I used came from a scrap bin of a staircase manufacturer. The manager allows me to search his bins and every time I go there I find something useful. I drew my design on paper and used double-sided tape to attach the patterns to the wood because pencil lines did not show up very well on the dark brown timber. The top view of the spoon end is shown here. The hollowed section is 150mm long, about 35mm wide and 15mm deep. If you are making one for a specific person, the width and depth should be adjusted to suit their heel and shoe.

**2** A side view of the spoon end. Note that, like the handle end, it slopes downwards; that makes the shoehorn easier to use.

**3** A top view of the handle section. From the 15mm wide stem, it widens to 30mm. It should be shaped so that it is comfortable to hold.



**4** A side view of the handle section. In between spoon and handle the stem – 15mm wide and about 18mm deep – will be straight and its edges rounded. Since both the front and handle curve downwards from the stem, the shoehorn is held away from the leg and thus is easier to use – easier than if the implement were straight. I believe it will also look nicer with that gentle curve built into it.

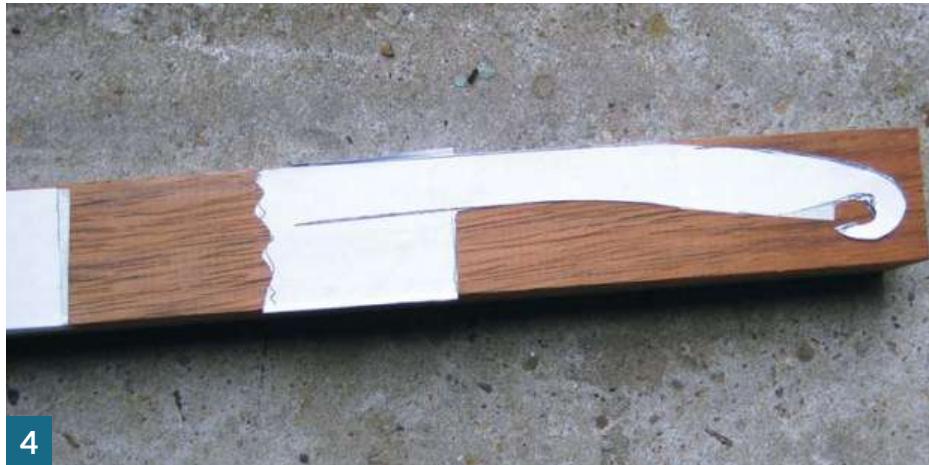
**5** The 25mm shallow gouge that I have is more solid than traditional carving gouges. It is at least 40 years old and may be the type that was once used by patternmakers. I clamped the spoon end in the Superjaws vice. The jaws are rubber faced and hold the wood immovable during the shaping of the channel with the gouge, meaning I can walk around the job. In a bench vice you would have to reposition the job several times.

**6** I could spend more time on it than the five or so minutes it took to get to this stage to make it smoother. With a round scraper I could have improved it enough to make it acceptable for use, but I decided to make use of the lathe instead.

**7** A friend at the woodturners clubhouse took my picture while I was removing waste from the back of the spoon. The homemade drawknife is a great tool that is not much in fashion these days but can be very useful for this kind of work. However, you can also cut away waste material with a handsaw or coping saw.

**8** I had to work carefully with the grain so as not to remove too much wood. A fellow turner gave me two blades of high-quality tool steel that only required a little sharpening and the addition of handles to create a brilliant tool.

**9** Next, I used a sharp wood rasp to round the back of the spoon, always pushing it into solid wood, not off an edge as that would result in breaking parts from the job. The rasp quickly did its share of the work but it left deep scratches so I followed that with a coarse wood file and lastly with a medium cut file. The medium file is shown in another photo. The procedure is like using grades of sandpaper because the files, used in succession, remove scratches left by the previous tool. ►



4



5



6



7



8



9

**10** On the lathe I fitted a turned rod on which I have taped coarse and medium abrasive. The spinning tool quickly smoothed out any unevenness left by the gouge. This photo shows the coarse stuff. The next photo shows the finer abrasive at the right side. It makes the hollowed part quite smooth.



10

**11** The visible grain pattern shows that a nice curvature has been achieved. As I sanded the spoon on the spinning aid close to the front, I lifted up the handle to create a downward curve close to the edge. I reduced the front edge to about 3mm thickness.



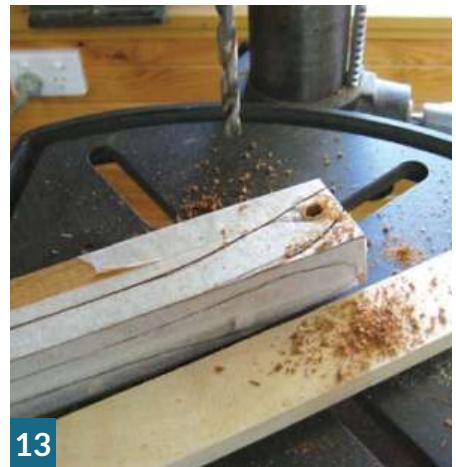
11

**12** With the inside shaped, I tackled the back once more to make sure the spoon would be thin enough to serve its purpose.



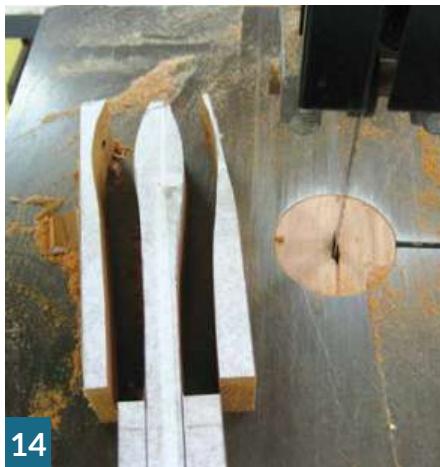
12

**13** I drilled a 7mm diameter hole in the handle. Note that it is too close to the end and that it would have been better if I had left more wood between the hole and the end of the handle. I had no problem with this when I made eucalyptus shoehorns but with the merbau the end broke off and I had to glue it back on.



13

**14** If you do not have access to a bandsaw you can do the cutting out with a scroll saw. Before I had a bandsaw I did the same thing with a coping saw. It is a lot slower but with care it can be done that way.



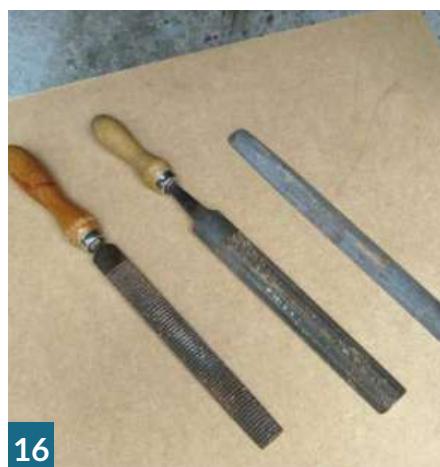
14

**15** Waste was removed from both sides and above and below the handle and a slot was cut towards the drilled hole. It is obvious that there is a weak section that can result in part breaking off, which it did.



15

**16** On the handle, I again used the rasp, very carefully, and the coarse and medium cut files.



16

**17** Anna took this picture when I was using the tool in the draw-filing way, moving the tool not along its length but drawing it up and down. Note that, although I wrote about the Triton Superjaws – invented by an Australian – I am using an Asian copy that works as well.



17



18

**18** If there is a risk of breaking the job, I support it against my chest. At this stage there is still an uncut square section between the spoon and the handle by which it can be securely clamped.



19

**19** Back at the bandsaw, I removed unwanted parts of the stem.



20

**20** The wider part of the handle was clamped in the rubber-faced jaws of the vice. They held the job well enough so I could round the corners and make the stem smooth, all the time supporting the spoon end against my chest. After all tool marks had been removed, I sanded the shoehorn with 240 and 400 grades abrasive.



21

**21** This image shows two abrasives, the jar with beeswax dissolved in methylated spirits – it becomes a paste – and the cloth with which I applied some wax to the job. Although I used merbau for this project, I'll stick to using Aussie hardwoods in future as

### John Swinkels

After 11 years of turning, John still considers himself an advanced beginner, as he continues to learn and experiment with various techniques. He has combined turning with leather and incorporated pewter as a decorative element. John says that the possibilities are unlimited and the enjoyment of the practice is still there, and also enjoys the odd spot of woodcarving as well.



Email: [swinkels38@yahoo.com.au](mailto:swinkels38@yahoo.com.au)



22

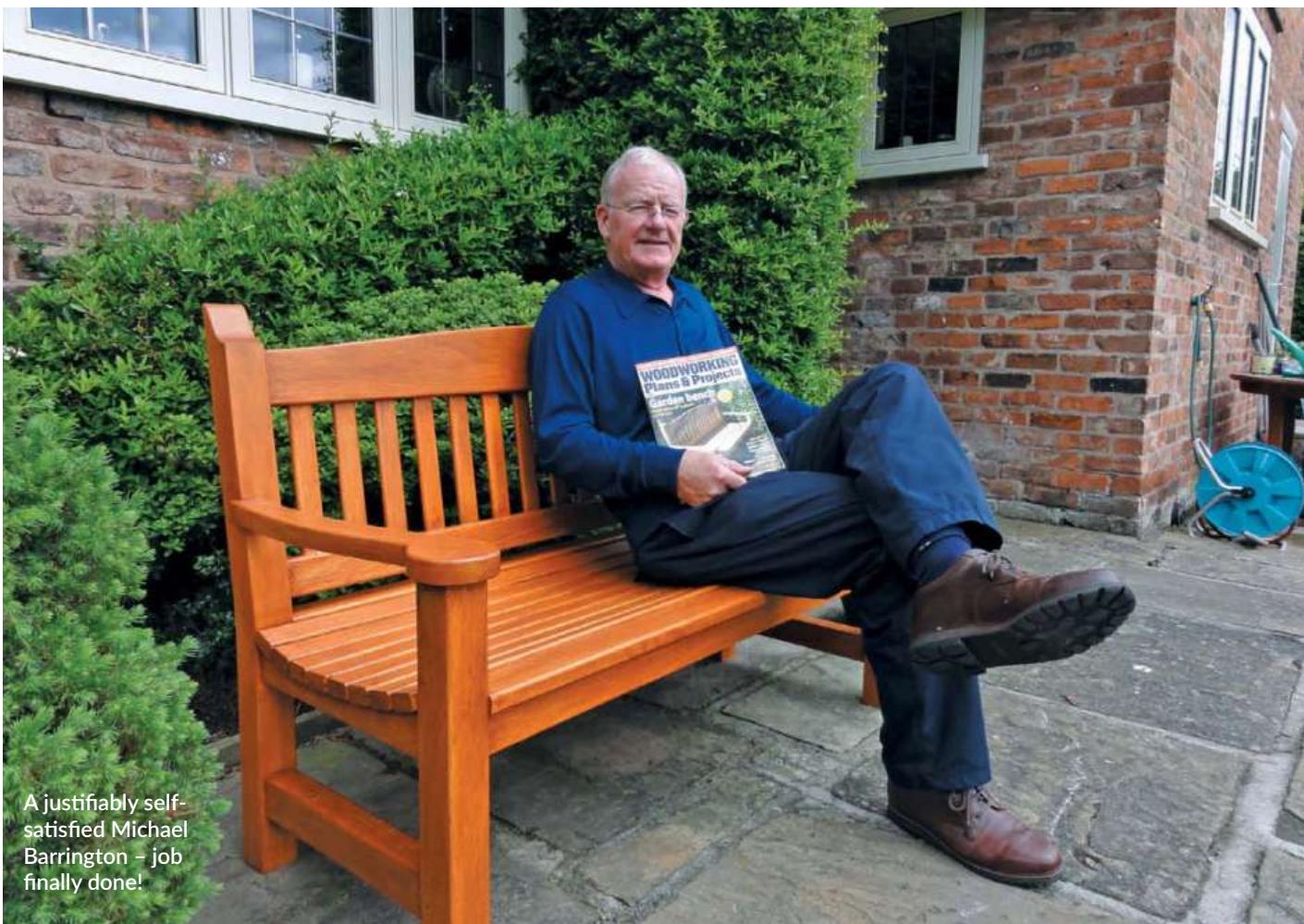
they are stronger and, in my opinion, preferable for wooden shoehorns.

**22** Four homemade scrapers. The two on the right were once part of a tenon saw. The concave curvature on the right-hand one makes

it suitable for scraping the handle of the shoehorn. The two on the left were made from some scrap steel sheet, not tool steel, and they work very well.

**23** Voila – the shoehorn has been completed. ■





A justifiably self-satisfied Michael Barrington – job finally done!

# It's never too late to learn

Ages ago, **Michael Barrington** got in touch and we corresponded about Jim Robinson's past bench project in WWP. Here, we look at Michael's very impressive result...

**A**part from the odd bit of DIY, over half a century had flown by since my last woodworking project, a coffee table made in my fourth year at school. At least my mother liked it! Then last year, for no reason at all, other than having a good sized garden, I took a liking to garden benches and decided to have a go at making one. I soon discovered that while there are lots of books around on how to make the stuff, most of the bench designs were simply awful, and most authors assumed that you'd served a seven-year apprenticeship in carpentry. However, it wasn't long before my internet research turned up a copy of the May 2014 edition of *Woodworking Plans and Projects*, which featured a rather handsome garden bench on the front cover.

I immediately sent off for a copy and took out a subscription. Jim Robinson's plans turned out to be reasonably straightforward to follow and any queries I had were promptly answered by Editor Anthony Bailey. Enthused, I set out to equip my workshop.

## The workshop

A shopping list of the required hand tools and safety gear was pretty straightforward but power tools were a different matter. As I muddled my way into this new world I soon realised that a router wasn't only something that connected your computer to the internet. I ended up with the following: mortiser, tablesaw, bench press, bandsaw, plunge router and power sander. I already owned a power plane.

## Timber

I sourced a local timber merchant and his advice was to use idigbo (*Terminalia ivorensis*) hardwood. Time will tell if this was good advice, all I can say is that I found it easy to work with. Before ordering the wood I had some recalculating to do regarding the cutting list provided in the plans. To the horror of traditionalists, I'd decided to use floating tenons with an American 'Mortise Pal' Jig, and therefore had to reduce the lengths of the timber given in the cutting list to allow for this. Also, I didn't have a planer thicknesser so the timber merchant had to cut and finish the wood. This proved to be an expensive exercise, labour costs no doubt accounting for a significant part of the bill.

## MAKING THE BENCH

I closely followed Jim's plans but there were a couple of things I did differently. Rather than using a bandsaw to cut the back legs, I used an American technique I'd seen on the net. It involved attaching the marked-out piece of timber to a  $\frac{1}{4}$ in plywood carrier and running the wood and carrier through the tablesaw. It worked perfectly. The mortises in the top and bottom back rails were cut using my hand held  $\frac{1}{2}$ in router guided by the 'Mortise Pal'. The mortises were left with rounded ends, unlike Jim's whose were squared off by hand. The back slats were then rounded off on the router table using a round over bit. Unlike Jim, I filled the hairline gaps, where the back slats fitted in the back rails, with flexible wood filler to keep water at bay. Although the carved lettering on the back of Jim's bench is quite charming, I decided it was beyond my current level of expertise.

### Finishing touches

Using floating tenons meant that I had to drill twice as many 6mm holes and insert twice as many dowels as Jim, one dowel glued into each side of the glued floating tenon of course. I made my own dowels using a dowel plate I bought, and also invested in a hand-held router to round off most of the square corners.

I then made the biggest mistake of all. I finished the bench off with an oil-based preservative. I tested the 'gold teak' colour on an offcut and it looked OK. However, after the three required coats the bench acquired the colour of Tony Blair after he'd been on a sun bed. Anyway, apart from this, I found the whole exercise so interesting and enjoyable – it won't be another 50

Right: The Barrington bench glued and assembled, almost there. (I like the ship in the display case – Ed)



Note the swept seat shape at the ends and the middle rail

years before my next project, in fact I'm getting on with another bench right now.

### Ed's final comments

- 1) Michael took out a subscription, which you can do with this our successor magazine *Woodworking Crafts* and get it delivered to your door every month and save money! – see Subscription on page 25.
- 2) Readers can always contact me by phone or email to discuss projects and technical problems, that's what I'm here for!
- 3) Idigbo was the timber used, it has moderate durability so a really good finish coat is essential and the bench should be stood on a solid surface such as slabs rather than grass, which can promote rot in any wood – see our Tonkinois group test in issue 6, page 67.
- 4) Michael got himself fully equipped first, but start with one of our simpler projects and gain experience before tackling something big like he did. ■



Partway through chopping out the recess to take the arm

### Lessons learned

- The mortise jig worked very well, saved time and virtually guaranteed a neat, clean joint. Time will tell whether the joints are as strong as traditional joints.
- Do not be tempted to buy extensions for sash clamps – even expensive ones. They bend under pressure at the joining point and therefore apply uneven pressure, which can result in your work being squeezed out of shape.
- Most router tables for sale online look as if they are worktop height. Beware... they are, in fact, child-sized, made either for you to operate while on your knees, or dangerously at face level on a worktop surface! I made a wooden stand for mine to bring it up to worktop level.
- Fixing most routers to a router table is a nightmare. Also, adjusting the cutter height of most routers, when eventually fixed to a router table requires the dexterity of a mime artist. Manufacturers – get your act together.
- I later discovered that there is one brand of router that is both easy to fix to the same brand of table and can have adjustments made to the cutter height from above the table.
- I have yet to find an effective small, mobile dust collector with hose adaptors to fit all of my equipment.
- Before using a preservative, make sure you test a piece of wood with the same number of coats that you'll be using on the finished article.





## www.norfolksawservices.co.uk

Visit us on-line or in-store for a comprehensive selection of woodwork machinery, power tools & consumables from all the top brands



[www.facebook.com/norfolksawservices](https://www.facebook.com/norfolksawservices)



@Norfolksaw

**Norfolk Saw Services, Dog Lane, Horsford, Norwich NR10 3DH**

**Tel: 01603 898695 E-mail: [sales@norfolksawservices.co.uk](mailto:sales@norfolksawservices.co.uk)**

## Thomas Flinn & Co.

Saw & Hand Tool Manufacturer  
Sheffield, England



The UK's last remaining traditional saw manufacturers.

Now also manufacturing Clifton Planes  
including a NEW  
Block Plane!

**Garlick** E.T. ROBERTS & LEE

**PAX** CLIFTON

[www.flinn-garlick-saws.co.uk](http://www.flinn-garlick-saws.co.uk)  
[orderonline@flinn-garlick-saws.co.uk](mailto:orderonline@flinn-garlick-saws.co.uk)  
Tel: 0114 2725387



The leaders in water based finish technology

### NEW Pearl Effects

Our new decorative acrylic paint is designed to create speciality pearlescent finishes.

Pearl Effects may be applied over General Finishes Milk Paints, stains and water based top coats to create translucent metallic pearl effects.



- Over 40 technique videos on our YouTube channel
- See web for shops & online stockists
- Trade & stockist enquiries welcome



Samples shown glazed using 10% Extender & dry brushed over Lamp Black Milk Paint.

Tel: +44 131 661 5553 [info@generalfinishes.co.uk](mailto:info@generalfinishes.co.uk)  
Unit 13, Peffermill Parc, 25 King's Haugh, Edinburgh, EH16 5UY.  
[www.generalfinishes.co.uk](http://www.generalfinishes.co.uk)

# Small space woodworking

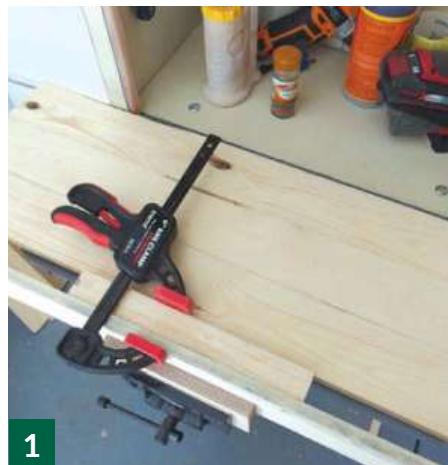
PHOTOGRAPHS BY GMC/ANTHONY BAILEY



## SPICE RACK

We told our poor old 'Ed' that he should spice up his life – he misunderstood us completely and livened up his spices instead – well at least he now knows his turmeric from his paprika...

**A**nyone who enjoys their cooking is bound to end up with lots of spice bottles that need to be organised so they are easy to choose from. This rack holds up to 14 bottles depending on size so gives plenty of space for storage and it looks good too. I chose rather knotty, slightly ragged pine (*Pinus spp.*) quite deliberately as it would look slightly more interesting than bland, unfeated softwood.



1

**1** The first job was to glue some narrow boards together so I would have enough width to cut components from. The edges had to meet properly without gapping and I clamped a piece of wood to the front vice jaw so the boards were held between it and the cupboard sides behind.

**2** Afterwards the glue and protective paper placed underneath needed



2

to be removed carefully with a very sharp chisel avoiding 'dig-in', which would spoil the surface.

**3** By laying out the bottles and doing a bit of measuring I could work out the size for the base section. Because the ends would be the same width I could saw down the whole length of glued up board and plane the edge smooth. ➤



3

**4** Careful marking out with a try square followed and I cut out the base and both upright ends ready for shaping them. This handsaw has reasonably fine teeth for a clean finish.

**5** By marking down the centre of each end board I could then use an aerosol lid to mark out the middle curve. First I measured and marked the lid's diameter so I could accurately centre the lid on the board. An emulsion can with its bigger diameter proved to be just right for the radius that meets the centre arc. The bottom position of the radius was marked on both sides so it would be even shaped.

**6** My trusty fretsaw was used to cut the curves close to the pencil line but not over so there would be only limited cleaning up to do afterwards.

**7** I used a rasp to start with, followed by some medium grit abrasive paper. A more expensive 'hand stitched' rasp gives a much nicer cutting action than a standard rather crude 'machine stitched' type. Stitching refers to the tiny teeth raised in the surface of the steel which bite into the wood.

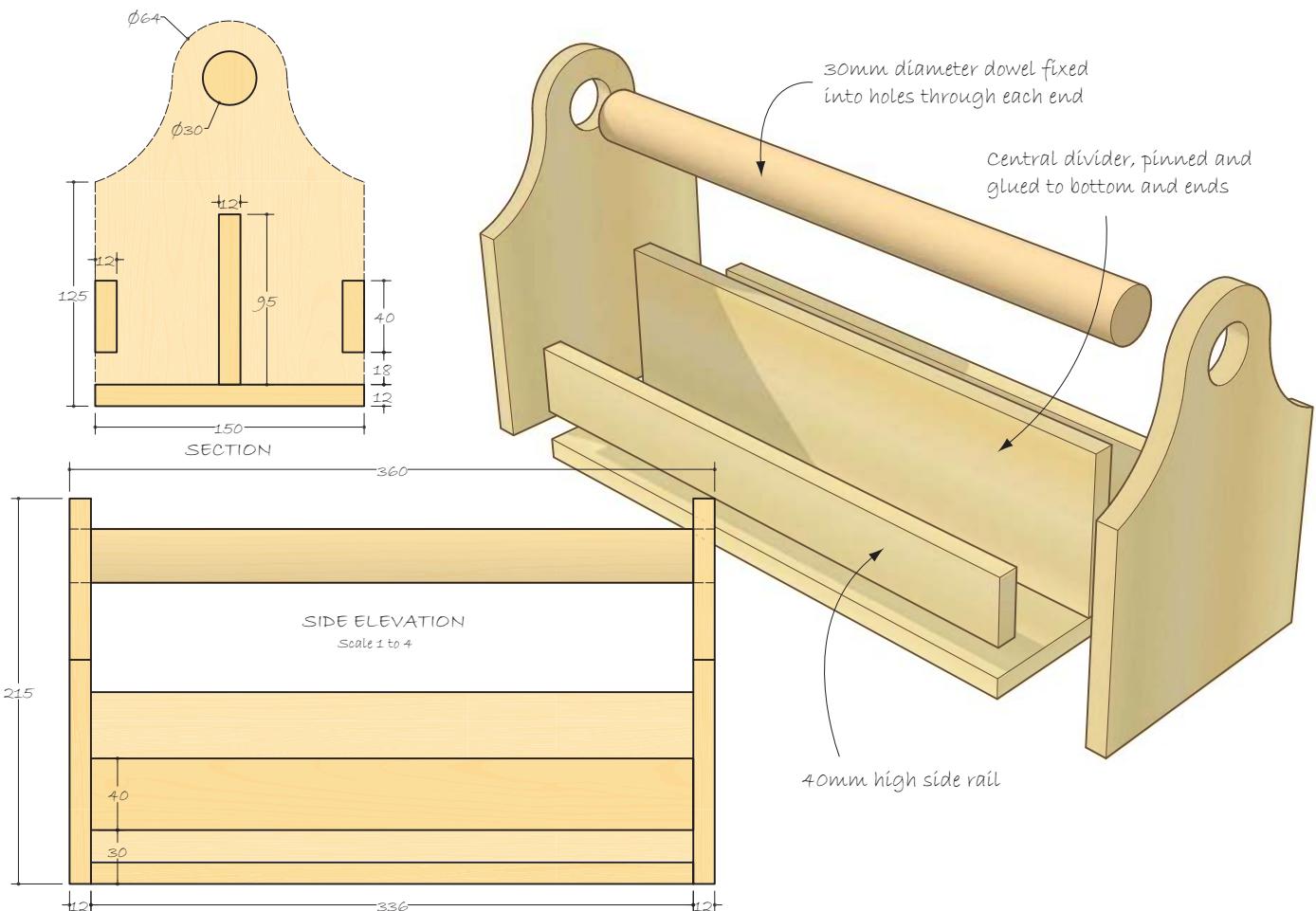
**8** By clamping the ends in place and cutting and fitting the centre divider and rails I could see how it was going to fit together. The main thing was to make sure the spice bottles would fit in alright. I wanted a large diameter dowel as a handgrip to pick the rack up so I used a 30mm diameter Forstner bit with its shallow point and smooth cutting action to make holes for the dowel to fit.

**9** All the faces were sanded smooth and any pencil markings got rid of. A perforated rubber mat is the best way to sand and stop the workpiece moving around and let dust escape into it.

**10** The outer rails were narrow sections that needed the sawn edges planing smooth. Putting both in the vice side by side made it easier to rest the plane on and get a level finish.

**11** The dowel was sold as 31mm diameter for some reason. I used the rasp with my thumb acting as a fence or stop, so I could reduce the diameter all round very slightly until it fitted both end boards.





**12** I had decided right at the beginning that the simplest possible fit was all that was needed. So slim French wire nail and a touch of aliphatic resin glue would be quite sufficient to hold it all together carpentry fashion.

**13** A line drawn across the top of the centre board acted as a guide for nailing on the outer rails.

**14** Once the glue was all set, I chose a slightly creamy white milk paint and wiped rather than brushed it on. I wanted to still see some grain through the paint and brush application would have masked it too much. In order to give the spice rack definition I used a wide, brown felt-tip pen to colour all the arrises – meeting edges. The result was still too bland so I decided to add a glaze effect over the whole thing.

**15** I used General Finishes burnt umber glaze effect but first I sealed the paint with a clear spray lacquer so the glaze wouldn't get mixed up with the paint but form a film of colour over it. I'm quite pleased with the result, it's bound to 'curry favour' at home! ■



# READER GROUP TEST

## Abranet Ace

Welcome to our **Reader Group Test** by members of our very own Woodworkers' Institute Forum



Abranet and Abranet Ace share certain things in common and look, to the untrained eye, to be identical. Abranet is composed of granules of synthetic aluminium oxide glued to a polyamide fabric mesh with phenolic resin. It comes in grits from P80 right up to P1,000 – a very wide range. Whereas Abranet Ace covers a more limited range from P80 to P800. It uses ceramic granular material to allow it to cut faster and last longer than the standard variety. All Abranets will successfully abrade almost any material you can think of, from hardwood to steel and anything else in between, such as plastics, lacquers and copper alloys. Abranet Ace does all this and more, making it even more efficient and productive than ever.

For anyone not familiar with Abranet, it is available in a variety of sizes including discs and attaches directly to hook-and-loop systems on sanders. Because it is a mesh, it stays cooler in use, it doesn't get clogged and is extracted across the entire surface area. It also works like a dream and makes conventional cloth and paper backed abrasives seem a little passé.

### Prices

125mm

80grit: £50.57 box 50

120g – 600g: £45.06 box 50

800g – 1000g: £53.05 box 50

150mm

80g: £58.84 box 50

120g – 600g: £51.46 box 50

800g – 1000g: £60.67 box 50

These are list prices inc VAT – discounts are available through Mirka distributors

Contact: Mirka Web: [www.mirka.com](http://www.mirka.com)

### TESTERS

Keith Baxter, Angus Lafferty, Dave Reilly, Jose Viveiros, Chris Murphy, David Child

We asked the testers a range of questions, some of which were graded, others needed more articulated answers rather than just scoring. We asked what was their experience using the products and if they had any problems using them.

**Keith Baxter:** I fitted the Abranet P240 to my DeWalt, removed the dust collection bag and fitted my workshop vacuum cleaner as suggested in the



PHOTOGRAPH BY DAVID CHILD

David Child was impressed by the extraction advantage and long life of Abranet Ace

data sheet. A 'once over lightly' showed that no dust was being collected and while there was still a cutting edge on the disc, it was quite reduced and the disc appeared to be clogged. A fine dust remained on the surface of the piece, such that I was able to draw shapes in it.

I then cleaned out the sander and the sander dust bag, swapped the Abranet product for one of my 'usual' P80 grit discs and sanded section 1A for three minutes. Both discs released dust into the atmosphere and both released

more from the wood than the paint. The 'usual' P80 grit cleaned more of the section down to bare wood than the Abranet product. The dust bag contained less dust from the Abranet disc, but it had also cleared less paint from the test piece.

**Angus Lafferty:** I was able to sand outside without the wind blowing dust everywhere. Indoors, I was able to sand without feeling the need to cover up furniture and remove curtains, etc. beforehand. I achieved a smooth



PHOTOGRAPH BY KEITH BAXTER

Keith Baxter found Mirka's claim of dust free sanding to be unconvincing judging by the amount of dust left behind



Jose Viveiros used a dedicated Mirka sanding system to get his results

finish which also removed cup rings, stains and other flaws in the hardwood windowsill and table I sanded for the test. I was both surprised and impressed that the dust was dealt with so efficiently. I would recommend it to other people as a better alternative to similar abrasives.

It is suitable for use indoors and doesn't require so much preparation before use.

**Dave Reilly:** A very easy product to use. I used it on a varnish stain on a floorboard. The 80 grit did not manage to get a good even finish, but gave a smooth finish. The 240 grit gave a great finish on plain untreated softwood. I would most definitely recommend the 120 and 240 grits for finishing work and the 180 grit works okay on a clear varnish.

**Jose Viveiros:** There was no dust and no clogging and it works for twice as long, if not longer.



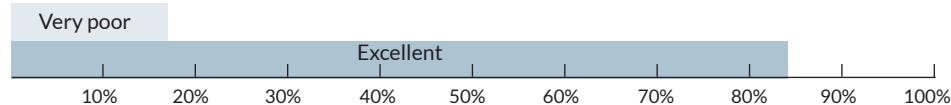
Angus Lafferty was impressed with the smoothness of finish on several projects

**Chris Murphy:** I think it will last a lot longer than normal paper, after quite a few goes the sheet still felt sharp. On some hard wood, it was scratch free.

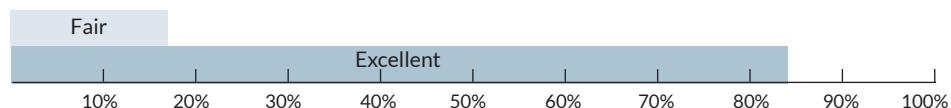
**David Child:** It extracted well after the extraction system was cleaned out. It lasts a lot longer than I expected it to

last! I was sanding down all the wood to make a picnic bench and I managed to do it all using one disc – normally I'd need at least about 10 conventional discs. The people I work with are interested in buying the product now, as it's done a very good job for what we do.

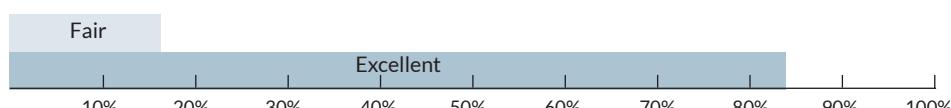
#### How would you rate the product performance?



#### How would you rate the product ease of use?



#### How would you rate the product overall?



#### Editor's comment

The tester who applied the most thorough effort in testing, Keith Baxter, was also the most negative by far out of all our testers and we simply didn't have room to put in all his comments. Mirka concentrate on selling Abranet and Abranet Ace as they are their most successful abrasive products by far.

Personally, I've used both versions of Abranet and found them to be much more effective as an abrasive, that won't clog easily and extracts well through a hook-and-loop machine platen that has holes in it.

We still tend to refer to abrasive sheet as sandpaper and still

still seems to be the most commonly sold type in DIY stores with aluminium oxide papers sold to the trade. Despite Keith Baxter's well considered concerns regarding lack of good extraction and a tendency to clog both Abranet types are still superior to the more common varieties of abrasive and I think justify the cost.

Abranet Ace is designed for tough applications such as hardwoods and solid surface materials. You will need a reasonable variety of mesh grades for comprehensive results, whichever type you choose. ■



If you would like to be part of our panel of product testers, please go to our website – [www.woodworkersinstitute.com](http://www.woodworkersinstitute.com) – and SIGN UP NOW!

# Ask the Experts

This is your chance to challenge our Editors and for them to answer your comments and queries

## WORKING WITH OAK

**“** Hi Anthony, I bought some prepared oak (*Quercus robur*) recently. It wasn't the ideal size, in fact I had already decided to split it down the middle to end up with thin strips that would be more use. When I cut them on the bandsaw they went a bit curly, twisting out of shape and are now useless and I'll end up burning this stuff that cost me money. How do I stop that happening again? I'm a bit nervous about buying wood that might misbehave like this **”**

Nev Shelling, by email

**Anthony replies:** Nev, this is the basic stuff of dealing with a natural product like wood, especially timbers like oak. You may be familiar with the expression 'hearts of oak', which is taken to mean strong and reliable, but oak is actually quite wayward and capricious and easily 'springs' out of shape because of its internal grain structure. The way timber is tamed for beams in oak-framed buildings is to square off all four sides of a reasonable straight grained trunk. By doing this it evens out the stresses and keeps it in a state of equilibrium so it shouldn't develop a twist or bend.

However, once a trunk is sliced through-and-through on a bandmill or resaw, you then take your chances depending on where the board is in the stack. The top and bottom slices are more likely to 'cup' i.e. develop bowing in cross-section. The flattest boards should be the very middle slices, excepting the very middle of a board where it can develop a sort of



Splitting timber, like oak, down the middle often results in bowed pieces like these

peak and some splitting, so a waney edge board will normally be divided down the middle of the trunk to create two reasonably flat boards either side of the middle. As this process goes on, the aim is to tame the tree and produce flat square planed stock, which can then be used for cabinetwork and joinery, that is until you divide a perfectly prepared board down the middle of the edge and release the inherent tensions in the wood as you have done. The trouble is if you buy standard kiln dried timber it 'sets' the stresses in the board, which are then upset when you cut the board down in thickness.

If you can obtain air-dried waney-



A dehumidifier cabinet is very easy to build and can be made to fit under a bench

**ANTHONY BAILEY**  
Editor, Woodworking  
Crafts Magazine



**MARK BAKER**  
Group Editor,  
GMC woodworking  
magazines



**DEREK JONES**  
Editor, Furniture  
& Cabinetmaking  
Magazine



PHOTOGRAPHS BY GMC (ANTHONY BAILEY,  
UNLESS OTHERWISE STATED)



A moisture meter will show the moisture content of wood during drying

## DIY FIXES

“ I've owned an ELU MOF 177E router for years, obviously, as they ceased to exist a long time ago. It's still a great router but the main bearing went at the bottom of the spindle, so rather than try to get it repaired because it was a) going to cost a lot and b) the repair company didn't seem happy to work on such an old machine, I thought I'd have a go myself. So, I found a bearings supplier who matched the bearing type, I rather cautiously took my precious vintage machine apart piece by piece. Top off, then bearing mounting, motor brushes, etc. and with the collet nut in place tapped out the spindle. I managed to knock out the old bearing and fit the new one. I switched it on with trepidation, but it worked! Well, for a while as I then did quite a bit of routing but it started sounding a bit 'graunchy' and running slightly slow and uneven. What have I managed to do wrong? Can it be sorted out and do I need to get it done professionally this time? Help! ”

Bob Tiltman

**Anthony replies:** Hi Bob, for a start, the only reason I'm publishing your query is as a warning to other readers about DIY fixes for powertools – that, and a useful explanation of the basics of how routers work.

I have replaced several bearings and switches on Elu MOF96 and MOF177E machines in the past and done it successfully. I do NOT advise readers to try messing with potentially quite dangerous electric tools unless they have previous professional experience doing this work. A router is very different from a power drill. It runs at very high speed so to be able to do this several things must be addressed. The main thing are the bearings which the spindle runs in. These are high speed bearings not ordinary ones. They are designed to cope with the stresses and heat of high speed running. The top bearing is smaller than the bottom one where the stresses are really exerted. Critically the large bottom bearing is sealed against dust and resin while keeping the special grease in place.

If your bearing was not rated for high speed or lacked a dust seal it would explain the failure. It's also worth



The inner workings of a router are complex



A proper high speed sealed router bearing

noting that high speed motors can only run smoothly if they are perfectly balanced, so just like balancing a car tyre by adding lead weights, such a motor has small nicks machined into the steel core to correct any imbalance. If you are determined to keep using your venerable ELU you should get it sorted by a professional repair company.



The Tool Marketing Company, or TOMACO, as it is known, who sell a variety of tool brands, including COLT, Sharp Edge and Narex Tools, are pleased to be sponsoring the 'ask the experts' section in collaboration with GMC Publications.

Each issue's 'Star Question Prize' will receive a Narex six-piece chisel set worth £79.95 and all other published questions will receive a 20mm half-round fine cut Narex rasp worth £20.95. For more information see [www.tomaco.co.uk](http://www.tomaco.co.uk)

If you have anything to say, write to: **The Editor, Woodworking Crafts, 86 High Street, Lewes, East Sussex BN7 1XN.** Alternatively, email: [anthonyb@thegmcgroup.com](mailto:anthonyb@thegmcgroup.com)

By submitting your questions and photos, you agree that GMC Publications may publish your Work in our magazines, websites, electronic or any other mediums known now or invented in the future. In addition GMC may sell or distribute the Work, on its own, or with other related material. This material must not have been submitted for publication elsewhere



## Things to do in November...



PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

Lewes Bonfire Night

### Bonfire

It depends where in the country you like, but in many areas – especially in the South East – it is 'bonfire season' where Guy Fawkes orientated celebrations take place. Wood and brushwood have many uses, including waste that might go to the tip or be burnt in your garden. A lot of garden burnable waste could go to your local bonfire society so they may be glad of it for their big display burn-up. Flaming paraffin soaked torches need sturdy slim sticks, again you may have some to offer and maybe you could then join in and enjoy the spirit of the event. Incidentally, if you have your own backgarden bonfire, local authorities generally advise burning at dusk onwards to avoid upsetting neighbours with the smoke.

### Time for the present

In this month's issue we show you how to make turned Christmas decorations, but of course you also need to consider whether you can make use of your woodworking skills to make friends and family some presents. Often these personal endeavours are much more appreciated than something shop bought especially if you explain some of the processes involved so they understand that you made some effort to create. Anything from wooden bangles to lined boxes to wall clocks or even larger projects can be well received – but

you need to get a move on now!



A handmade present will be greatly appreciated

# Turned Christmas ornament



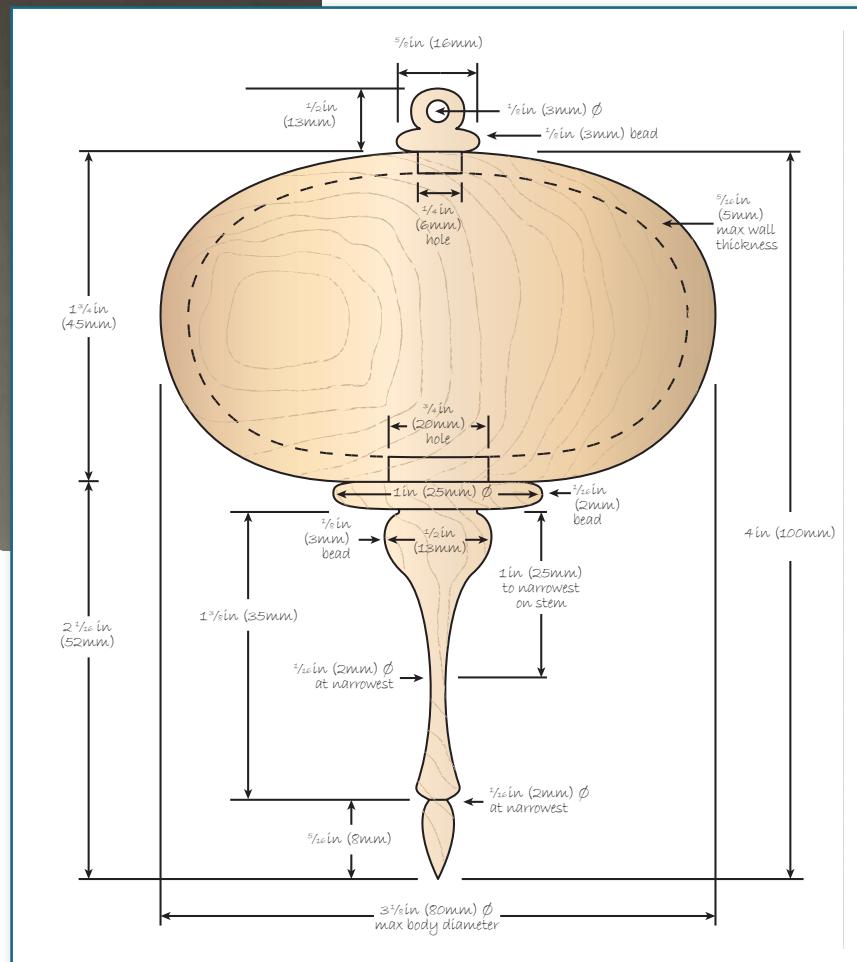
PHOTOGRAPHS BY GMC/ANTHONY BAILEY

## What you will need:

- Spindle roughing gouge
- Spindle gouge
- Beading and parting tool
- Thin parting tool
- Scraper with round or French-curve cutting edge
- Chuck
- Callipers
- Revolving centre
- Driver spur
- Duct tape
- Abrasives down to 400 grit
- Finish of your choice
- Line or wire to suspend ornament
- Drill with drill bit to suit line or wire used to suspend ornament
- Personal protective equipment (PPE): faceshield, dust mask and extraction

In this extract from *Weekend Woodturning Projects*, **Mark Baker** turns a stylish maple and African blackwood Christmas ornament

Ulticoloured baubles of every conceivable shape and size are widely available to buy, but it is a great idea to try making Christmas tree decorations yourself. This ornament is a wonderful way of using your turning skills in a different kind of project. If you use low-density wood such as softwoods, you could make thin icicles in one piece without them being too heavy. This is a form made in three parts and I am using rippled maple (*Acer saccharum*) for the body – a small hollow form – and African blackwood (*Dalbergia melanoxylon*) for the top for contrast and the lower icicle-like drop finial. Choose what woods you like and play around. There are so many shapes to go for.



**1** Let's start with the body. Mount between centres and create a cylinder, then cut a spigot one end.

**2** Use a spindle gouge to create the body shape you want. I chose a squat bead form. You can drill or use a spindle gouge to create a hole right through the piece, before opening up the hole near the tailstock to accommodate the bottom icicle-type drop finial. This is the hole you will be hollowing out through. Do not go too deep or the piece will not be stable for hollowing under the rim.



**3** You can effectively hollow out by sweeping the gouge from the centre out in a fan shape that, once done, is all you can do with the gouge. The downside of working through a small hole is you have to stop and clear out the shavings regularly.

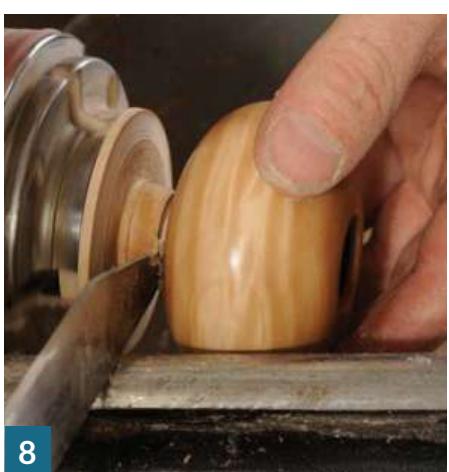
**4** To achieve the shape required for this project, use either a shaped scraper or a scraper or cutting tool that allows you to reach around the shoulder. A swan-necked, articulated or swivel-tip scraper will do this. If you do not have one, just change the body shape so you can reach all the areas with a gouge or standard straight scraper. Whatever you use, adjust the opening shape to make sure you can move the tools to where you need to get to without hitting the side walls.



**5** The tool should be supported on the rest by the main shank of the tool and not by any other part. Angle the cutter to reach where you need to go and make gentle cuts above the centre line of the form and never below it.



**6** Once you have run the cutter around the inside and have an even wall thickness, use a beading and parting tool to reduce the waste on the chuck-side of the form.



**7** Now sand and apply a finish of your choice. Again, I used oil.

**8** Part off the work. No part of me is near the chuck so I am clear to hold the work gently while I part it off. Remember there is a hole running through the piece. Once parted off, clean up the upper end of the piece and apply your choice of finish. ▶

**9** The lower finial is a section of a timber of African blackwood from what is sold as a clarinet bell blank. One of these quadrants will do four complete projects like this for me.

**10** Being square, the thickest end can be gripped in the central section of your chuck jaws. The revolving centre can be brought up to support the piece while creating the taper. African blackwood takes excellent details but is dusty to use.

**11** Measure the opening of the widest hole.

**12** Measure the overall length of the finial required then use the beading and parting tool to cut the spigot to the right diameter to suit the length previously measured. This now establishes the mating joint and also the overall length of the finial. Then use the spindle gouge to start shaping the finial.

**13** Use a spindle gouge to shape a partial bead on the part nearest the dimensioned spigot. Note how there is a wider section at the pointed side of that tenon. This will allow the tenon to fit in the hole and provide a shoulder that covers the hole as well as providing a nice detail. Now shape the tip end of this bead and then start to refine the finial shape, working from the very tip back to the bead.

**14** Blackwood cuts cleanly if a shearing or peeling cut is used. As with previous finials, create the main curve of the finial slowly and carefully, again the thinnest part is about one-third of the way down from the top. Near the shoulder the stem is rolled over to create a nice intersection with the beaded shoulder area. Once shaped, sand it.

**15** Apply your finish. Oil and paste wax was used in this case too. As before, apply only gentle pressure, then buff with paper towel.

**16** Now part off the piece through the tenon cut. You need to leave enough on the finial side to equal the wall thickness of the hollow form so it has as much glue area as possible to bond properly.



9



10



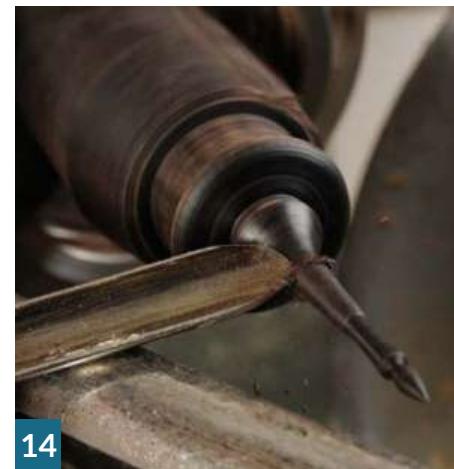
11



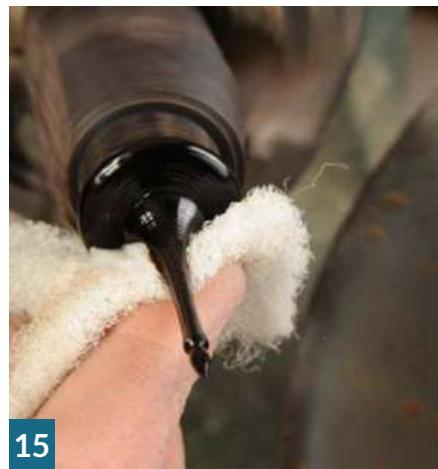
12



13



14



15



16

**17** Now try it for fit. You can see here how it should fit in position nicely. Check that the bead detail and shoulder work well visually.

**18** Now flip the hollow form over and measure the hole created when you pushed the drill or gouge horizontally into the wood. Now create another tenon on the blackwood held in the chuck, making it slightly bigger than the hole opening, and use a spindle gouge to cut a little ball on its front end.

**19** Once cut, drill a small hole horizontally in the centre of it. The hole only needs to be big enough for some fishing line or a ribbon to be passed through it.

**20** Once drilled, refine the shape of the ball.

**21** Turn a bead form on the shoulder of that previously cut tenon, at the base of the ball. The forming tool works well for this, but a gouge or parting tool would do too.

**22** Now create a spigot of the right size to fit in the hole. You can see how callipers and a thin parting tool work well for this. The spigot needs to be overlong so you can part off the right length. The other thing is to undercut the top-most shoulder of the beaded part so this sits flush against the hollow form. Do not part it off yet.

**23** Now sand the piece carefully and then apply your finish. Buff it with paper towel, then part it off.

**24** Now glue the lower finial and upper button in place. ▶

#### Hints & tips

- The grooves used for this hollow form could be replaced with coves, if you prefer. To achieve this, use the radius point of a small spindle gouge in trailing mode.

**Weekend  
Woodturning  
Projects**

ISBN:

9781861089229

Price: £16.99

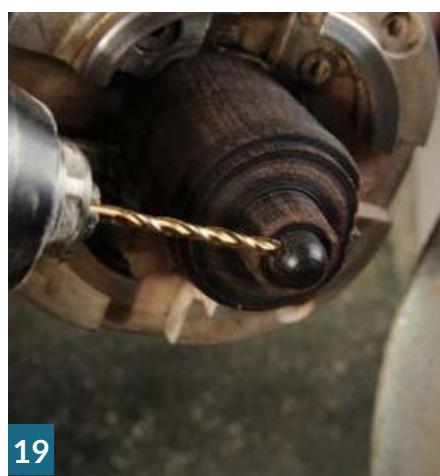
Web: [www.gmcbooks.com](http://www.gmcbooks.com)



17



18



19



20



21



22



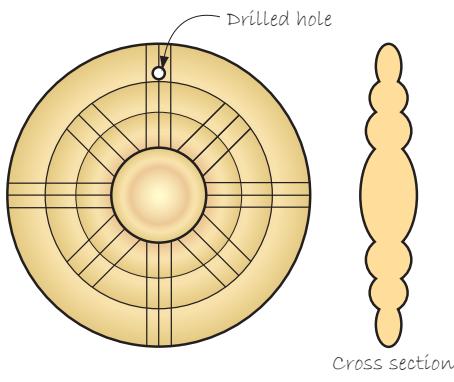
23



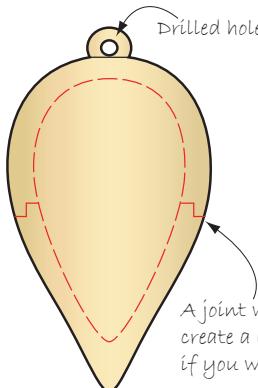
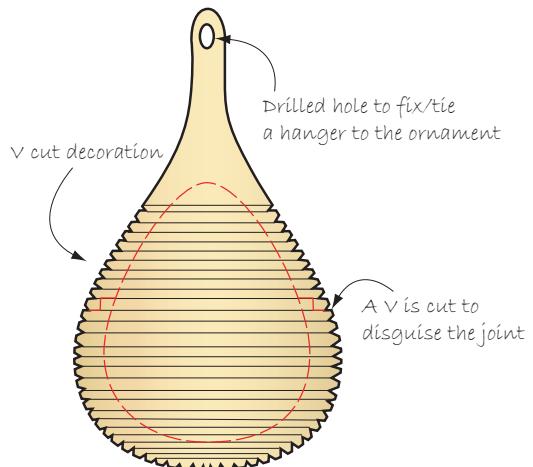
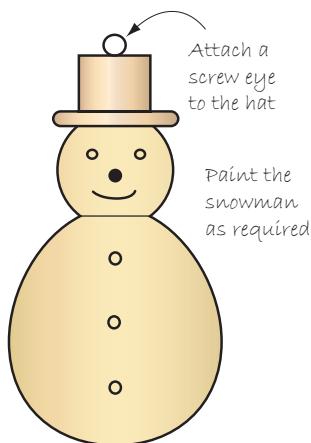
24

Some alternative designs for you to consider...

This ornament can be a simple turned one or feature carved detail as well



The striations mark the position of V cuts made with a carving chisel



**WOODEN CONSTRUCTION KITS**

**FUN TO BUILD AND FULLY FUNCTIONING**

**Winner of 2013 Top Toy of the Year, and Children's Choice Awards!**

**Based on real, iconic Leonardo Da Vinci designs!**

**Da Vinci Trebuchet £16.99**

**Da Vinci Catapult Wooden Kit £14.99**

**Da Vinci Helicopter £14.99**

**Da Vinci Bridge £7.99**

**Medieval Catapult Wooden Kit £14.99**

**Robotic Arm Wooden Kit £14.99**

**Da Vinci Ornithopter Wooden Kit £25.00**

**FREE P&P**

**CALL 01273 488005 TO ORDER YOURS TODAY**

**QUOTE: R4891**

# TO **MA** CO

## THE TOOL MARKETING COMPANY

### DISTRIBUTORS OF QUALITY PRODUCTS



Chisel and plane iron sharpener - take anywhere and sharpen in seconds.



Quality range of woodworking hand tools made in Europe.



A quality range of professional Drill bits and accessories from Germany.



Range of knives for trade and carving. Swedish quality, swedish steel. Made exclusively in Mora Sweden.



Range of the toughest tool bags with a 5 year downtime warranty.



Router cutters, spindle moulding cutters and saw blades from Italy.

FOR YOUR NEAREST STOCKIST VISIT  
**[www.tomaco.co.uk](http://www.tomaco.co.uk)**

# PERFECT FOR CHRISTMAS

SAVE  
UP TO  
30%

## Give a subscription...



Design and  
inspiration for  
furniture makers



Guidance and  
inspiration for  
ambitious carvers



The best-loved  
woodturning  
magazine



Devoted to the  
scroll saw

## ...or treat yourself!

POST: FREEPOST RTHA -TGLU -CTSK, GMC Publications Ltd, 166 High Street, Lewes, BN7 1XU

TEL: +44 (0)1273 488005 FAX: +44 (0)1273 402866

WEB: [www.thegmcgroup.com](http://www.thegmcgroup.com)

Please affix a stamp if sending from outside the UK.

Please quote order code A4944

**YES!** I would like to subscribe / give a subscription for 12 issues to:

- Furniture & Cabinetmaking** for £35.70 was £51.00  
£44.63 (Europe), £49.98 (Overseas)
- Woodcarving** for £16.59 was £23.70  
£20.74 (Europe), £23.22 (Overseas)
- Woodturning** for £33.18 was £47.40  
£41.48 (Europe), £46.45 (Overseas)
- Scroll Saw** for £17.95 £22.50 (Europe), £33.00 (Overseas)

### Payment methods (please tick and fill in chosen option)

I enclose a cheque made payable to GMC Publications Ltd, or  Please debit my credit/debit card

Card No.

Start date    Expires    Security code

Signature  Date

### Ordered by

Title  Initial  Surname

Address

Postcode  Country

Telephone  Email

### Gift recipient (if different)

Title  Initial  Surname

Address

Postcode  Country

Telephone  Email

Guild of Master Craftsmen Publications will ensure that you are kept up to date on other products which will be of interest to you.

If you would prefer not to be informed of future offers, please tick this box

Offer expires 31/01/2016 Plus free gift with some issues. Sorry, no Direct Debit available.

# THE CHIPPENDALE INTERNATIONAL SCHOOL OF FURNITURE

[www.chippendaleschool.com](http://www.chippendaleschool.com)



## D B KEIGHLEY MACHINERY LTD

### New/Secondhand Woodworking Machinery Service & Spares

Vickers Place, Stanningley Pudsey, Leeds, West Yorkshire LS28 6LZ

Tel: 01132 574736 Fax: 01132 574293

[www.dbkeighley.co.uk](http://www.dbkeighley.co.uk)





**Router cutters  
Spindle tooling  
Bandsaw, jigsaw,  
circular saw blades**

[www.wealdentool.com](http://www.wealdentool.com)



# Woodworking CRAFTS

Would you like to advertise your business  
to a wide network of woodworkers and  
hobbyists alike?

Contact the sales team today

Russell Higgins: **01273 402841**

or email [russellh@thegmcgroup.com](mailto:russellh@thegmcgroup.com)

## Ken's Hardware

Sensational Hardware Store for You...

Are you looking for a quality  
hardware store in Lisburn?

We are a well established and highly  
efficient store, offering an extensive  
range of products and a service which  
is tailored around the client's own  
personal set of requirements.

### DIY PRODUCTS, EQUIPMENT & POWER TOOLS

15 Graham Gardens,  
Lisburn BT28 1XE  
Tel: 028 9266 4169



[www.kenhardwarelisburn.co.uk](http://www.kenhardwarelisburn.co.uk)

Visit our website at [www.hobby.uk.com](http://www.hobby.uk.com)  
**HOBBY'S** The Modelmaker's Yearbook £3.25 P&P FREE

Annual 2016 • No.46 • 320 Pages

- NEW EASY CUTTERS & POWER TOOLS
- MECHANICAL ALARM CLOCK KIT
- NEW ICONIC TV/FILM KITS
- HERITAGE STEAM ENGINE
- MARQUETRY KITS WITH DVD



**DOLL'S HOUSE**  
SPECIALISTS

MATCHTECTURE  
ONE THOUSAND  
AND ONE NIGHTS

NEW ARTICLES

METAL EARTH  
HANDSOME CAB  
MATCHSTICK CLOCK

FREE PLAN COUPON  
WORKING MATCHSTICK  
ROCKING HORSE

Hobby's (Dept WWC)  
Knight's Hill Square  
London SE27 0HH  
020 8761 4244  
mail@hobby.uk.com  
[www.hobby.uk.com](http://www.hobby.uk.com)

Available from WH Smith & leading newsagents or direct



## woodworkersinstitute.com

The UK's No. 1 source of information from the world of woodworking

Furniture &cabinetmaking **Woodturning** **CARVING** Woodworking CRAFTS



- Latest news • Projects • Reviews • Techniques
- Competitions • Blogs • Forums • Giveaways

Europe's largest woodworking website  
offering expertise and a vibrant community



## UK Suppliers of Olive Wood Blanks for Turners

At Olive Wood Turning my intention is to supply part seasoned olive wood turning blanks in useable sizes at reasonable prices. We supply to both professional and hobby turners as well as turning supply shops

All blanks have been dressed and wax sealed to help prevent splitting.

Multi-buys available to save on postage costs

If you have a project but aren't sure if Olive is for you, call to chat it over, I'm not a salesman, I'm a wood turner that sells some nice wood.

Courier service to mainland UK, Highlands & Islands, Northern and Southern Ireland and Europe

If you have no internet please phone or write to the address below to receive a product list and order form in the post

**WWW.OLIVEWODTURNING.CO.UK**

TEL: 07714 204060

EMAIL: [JAMES@OLIVEWODTURNING.CO.UK](mailto:JAMES@OLIVEWODTURNING.CO.UK)

Unit 10 Lidun Park, Boundary Road, Lytham, Lancs FY8 5HU

**SPINDLE BLANKS**

**BOWL BLANKS**

**PEN BLANKS**

**OLIVE WOOD PLANKS**

**OLIVE WOOD BURR**

**MULTI BUYS**

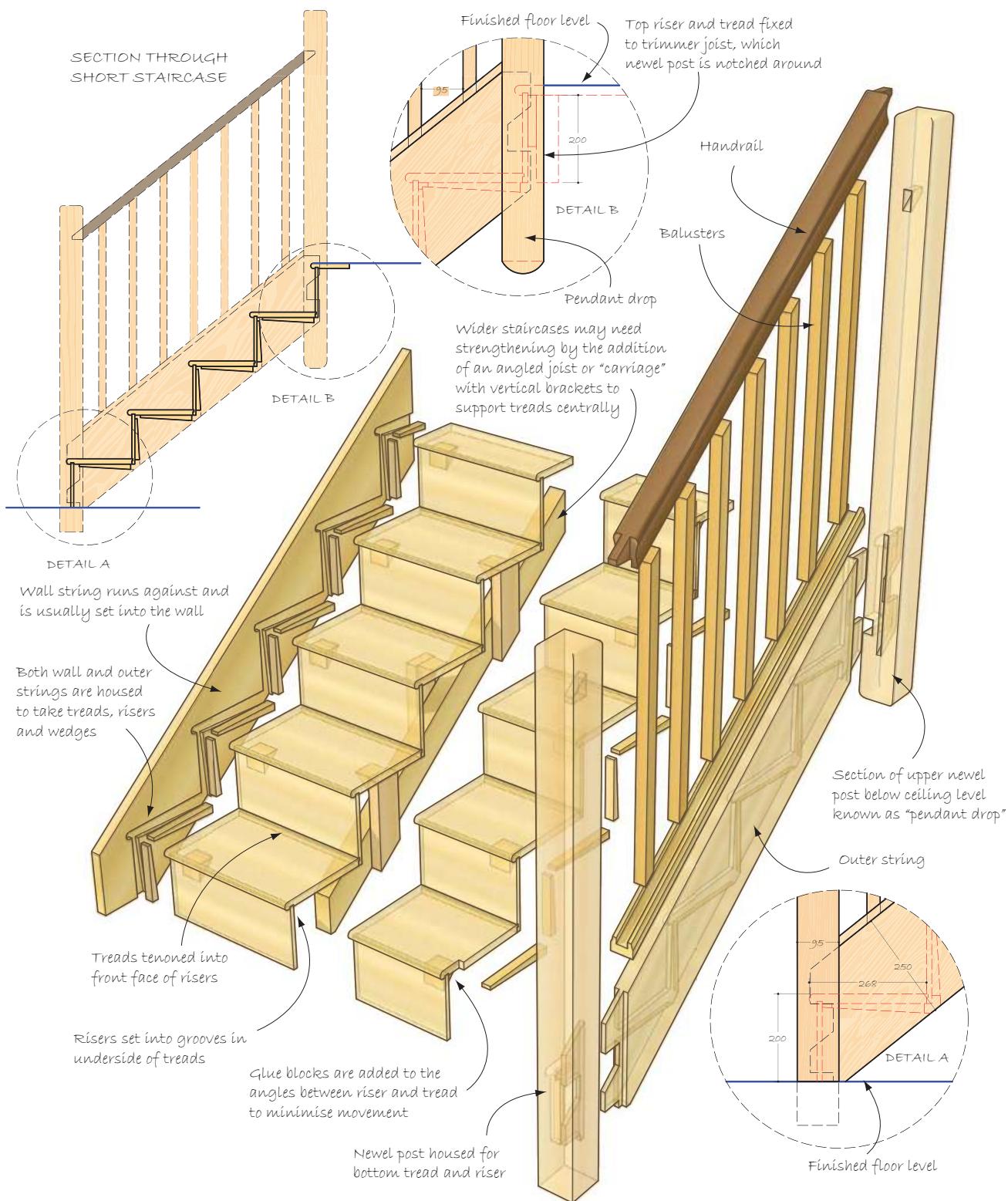


# WOODWORKING GEOMETRY

Simon Rodway shows you how to build a staircase

Stairs are probably the most complex and technically demanding joinery component of the average house, and the range of types and layouts is huge. There are usually a number of standard features to staircase construction, the key one being the string or angled side board into which the treads and risers – the vertical part of the step – are housed. Most domestic staircases have two strings, one set into the wall and the outer string, which also

forms the support for the balustrade. Additionally, the ends of the handrail on the balustrade will often be fixed into vertical newel posts at both ends, and these posts are often used to allow changes of direction in a stair, as well as being one of its primary decorative components, particularly in Victorian houses. Wider staircases may need handrails on both sides, as well as an additional support centrally, known as a carriage. ■



DO MORE

DO MORE



INSERT BITS



BIT HOLDERS



EXTENSIONS



POWER BITS



DOUBLE-ENDED POWER BITS



ANGLED DRILL DRIVE



MAGNETIC SCREW COLLAR

DOUBLE-ENDED BITS

DOUBLE-ENDED VERSATILITY

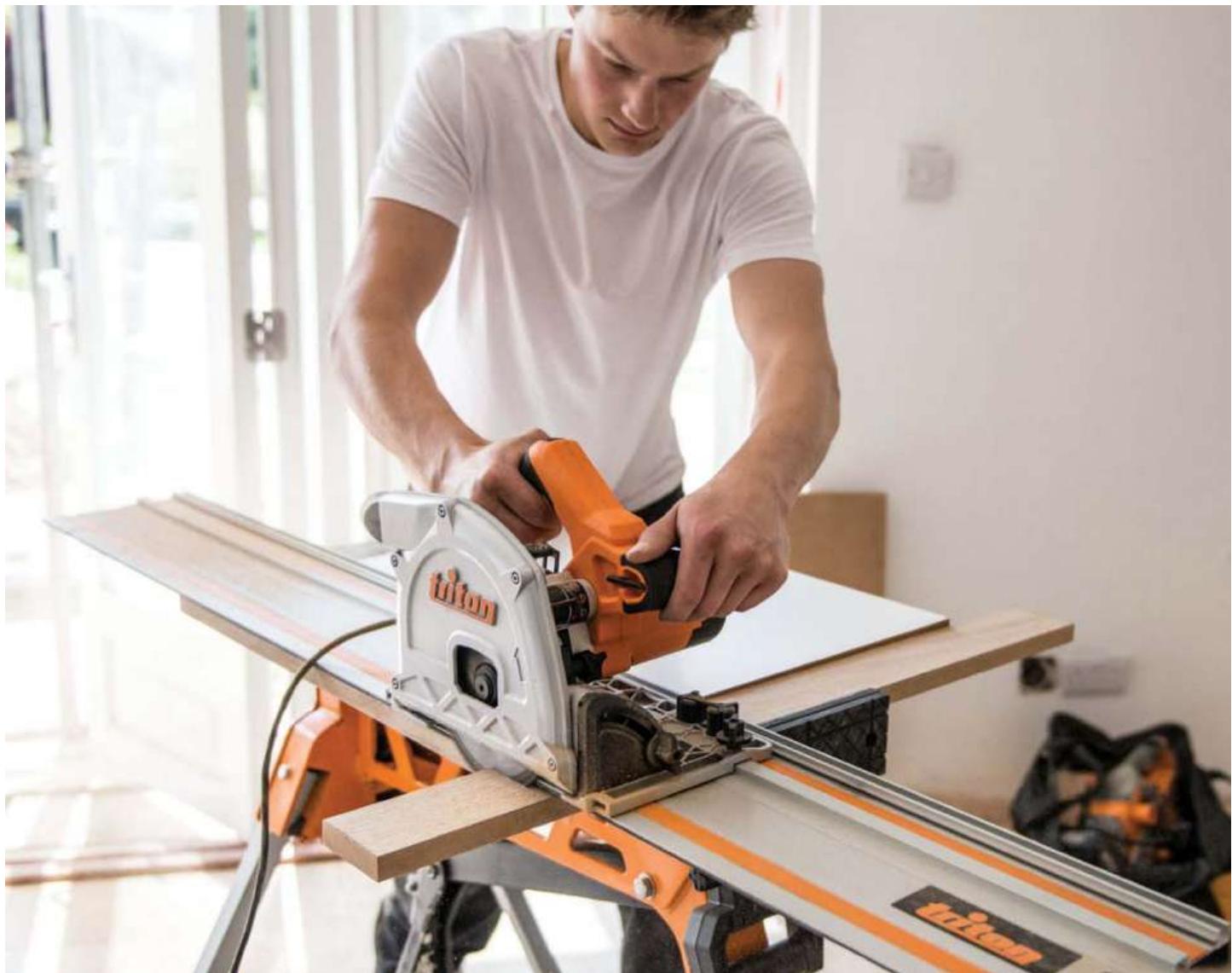
THE NEW IRWIN IMPACT PERFORMANCE SERIES™ BITS.  
DO MORE WITH YOUR DRIVER THAN EVER BEFORE.

With single and double-ended bits, extension accessories, and a broad range of tips and lengths, the Impact Performance Series is the most versatile on the market and has what it takes to get any job done. We even used it to make this ad.

[irwin.co.uk](http://irwin.co.uk)

**IRWIN**  
TOOLS®

# Engineered Precision



## Accurate Cutting

**TTS 1400**

The **TTS1400** Plunge Track Saw is a highly versatile, feature-packed tool with easy mode selection, fast set-up and advanced safety features.

When fitted to a track, the **TTS1400** delivers long, straight cuts, and the flat design of the blade housing means the saw will work right up to the edge of the workpiece – ideal for trimming doors and cutting hardwood flooring.

The mode selector allows quick change between free plunge, scribe or blade change, and cutting width indicators show the exact point at which the blade plunges into the workpiece.

For straight, clean and accurate cuts through any type of wood, Triton's **TTS1400** Plunge Track Saw delivers a professional result every time.

